

City and County of the City of Chester.



ANNUAL REPORT

TO

THE MAYOR, ALDERMEN, AND COUNCILLORS OF THE
CITY AND COUNTY OF THE CITY OF CHESTER

ON THE

HEALTH OF THE CITY

IN

1911

BY

D. RENNET,


M.D., D.P.H.,

MEDICAL OFFICER OF HEALTH.

CHESTER:

TAPLEN & PADDOCK, PRINTERS, EASTGATE ROW (NORTH).

1912.



Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b29105535>

BRIEF SUMMARY OF REPORT ON HEALTH CONDITIONS
IN CHESTER DURING 1911.

The Birth Rate is the lowest yet recorded.

The Notification of Births Act 1907 was adopted during the year, and has enabled a more satisfactory supervision of conditions affecting young infants, to be undertaken.

The Death Rate in the City is the lowest yet recorded.

The Death Rate from Pulmonary Tuberculosis is also the lowest.

The Zymotic Death Rate is lower, but the Death Rate from Whooping Cough is relatively high.

Chester can now look forward to a greatly improved Water Supply.

Satisfactory arrangements have now been made for the examination of houses unfit for habitation.

The method of removal and disposal of house refuse is still requiring improvement.

The Sewage Disposal Works are still waiting extension, and completion.

Building Bye-laws are still an urgent necessity.

Public Health Committee.

<i>Chairman</i>	-	-	DR. MANN.
<i>Deputy Chairman</i>	-	-	ALDERMAN H. DODD.

Members :

ALD. EGERTON GILBERT.	MR. JOHN OWENS.
ALD. D. L. HEWITT.	MR. A. S. DUTTON.
MR. W. CARR.	DR. T. S. PARRY.
MR. MARTIN GIBBONS.	MR. J. SHERIFF ROBERTS.
MR. J. GRIFFITHS.	MR G. J. ROBERTS.
MR. E. O. ROBERTS.	MR. C. P. COCKRILL.
MR. A. WALL	

THE MAYOR (MR. W. H. DENSON) is an *ex-officio* Member of all the Committees of the Council.

Staff of Health Department.

<i>Medical Officer of Health</i>	-	-	-	-	-	{ J. R. CURRIE, succeeded by D. RENNET.
<i>Assistant Medical Officer of Health</i>	-	-	-	-	-	{ W. SCARISBRICK, succeeded by R. W. MACPHERSON.
<i>Chief Inspector</i>	-	-	-	-	-	A. T. EGINTON.
<i>Inspectors</i>	-	-	-	-	-	{ J. BUCKLEY. P. REES, succeeded by W. H. WOOD.
<i>Lady Inspector</i>	-	-	-	-	-	ETHEL M. COHEN.
<i>Clerks</i>	-	-	-	-	-	{ E. FOULKES. C. TAYLOR. H. HEWITT.

INDEX.

	PAGE
Alcoholism	42
Bacteriology of Milk	56
„ „ Water Supply	66
Bakehouses	53
Births	10
Births Act, Notification of	14
Canal Boats	48
Cancer, Deaths from	30
Cause of Death and Age of Death	87
Common Lodging Houses	52
Dairies, Cowsheds, and Milkshops	54
Deaths	23
Deaths from Cancer	30
„ „ Diphtheria	39
„ „ Measles	39
„ „ Phthisis	33
„ „ Scarlet Fever	35
„ „ Typhoid Fever	40
„ „ Whooping Cough	40
Deaths in Courts	42
Deaths, Non-resident	23
Diphtheria	36
Factories and Workshops	49
Fried Fish Shops	57
Health Visitor	19
Homework and Outworkers	51
Housing	72
Infantile Mortality	24, 88
Infants, Supervision of	19
Infectious Disease, Notifications	86
Inquests	22
Isolation Hospital	82
Lady Sanitary Inspector	81

	PAGE
Margarine, and Margarine Cheese, Wholesale dealers in... ..	58
Meat Inspection	58
Meat Tuberculous	59
Meteorology	43
Midwives	13
Milk supply	55
Mortality, Infantile	24, 88
„ in relation to Age	24
Municipal Laboratory	63
Non-resident Deaths	23
Notification of Births Act	14
„ „ Phthisis	31
Population	9
Prematurity	27
Protection of Food Supplies	54
Puerperal Fever	21
Pulmonary Tuberculosis	31
Refuse Destructor	71
Sanitary Inspectors, Work done by	75
„ „ Work in General	74
Scarlet Fever, Deaths from	35
Sewage Disposal Works	70
Shop Hours Act	51
Small Pox	42
Still Births	12
Typhoid Fever	40
Vital Statistics	85
Water Supply	65
Whooping Cough, Deaths from	40
Zymotic Death Rate	34

STATISTICAL SUMMARY 1911.

Area in Acres	...	...	...	...	...	...	2,862
Estimated Population	...	...	...	...	...	...	39,479
Birth Rate	...	...	...	...	...	...	23·83
Death Rate	...	...	...	...	...	...	14·28
Infantile Mortality	...	...	...	...	...	...	109·4
Phthisis Death Rate	...	...	...	...	...	...	1·038
Death Rate from all forms of Tuberculosis						...	1·393
Respiratory Death Rate excluding Phthisis						...	1·747
Zymotic Death Rate	...	...	...	...	...	...	1·47

City and County of the City of Chester.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1911.

POPULATION.

The enumeration of the population during 1911 enables a more accurate statistical study of the health problems in the City to be made than has been possible in the immediately preceding years.

The assumption that a population increases or decreases in the same ratio in the 10 years subsequent to a census as it did in the 10 previous years is frequently falsified by the ascertained fact.

In the case of Chester the population has been estimated at a somewhat high figure. According to the recent census 39,056 represents the enumerated population in the middle of the year. To this number has to be added about 450 for Chester residents in the Union Workhouse, who were not included in the enumeration, and 63 in other institutions. The total additions for our outlying population is therefore 513. From this number the non-residents in the Chester General Infirmary has to be deducted

as having been included in the census enumeration. This deduction is approximately 90, which brings the corrected population of the City of Chester to 39,479 for the year 1911.

The various rates calculated in relation to population, published in former reports have been based on a population somewhat larger than the actual, and are therefore given lower than if calculated on a more accurate estimation. The difference is slight, but for accurate comparison the population for the last thirty years has been re-calculated and the birth rate and various death rates corrected in accordance with the new figures.

BIRTHS.

Nine hundred and twenty-three births were registered in the City during 1911, to which has to be added 18 births of children whose mothers' usual residence is Chester, making the total births for the year 941. This is equivalent to a birth rate of 23·83, considerably the lowest yet recorded in Chester. It is lower by 1·34 than the rate for the previous year (25·17), and is less than the previous lowest, 1909, by 1·15. Compared with the average birth rate for the previous 10 years it is lower by 2·53 (26·36 and 23·83). If the births had remained at the average rate for 1901-1910 there would have been 1,141 in place of 941, a loss of 200.

The following table shows the position of Chester in relation to the rest of England and Wales:—

BIRTHS RATE 1911.				PER 1000 LIVING.
England and Wales	...	...	...	24·4
77 Great Towns, including London	...	...	...	25·6
136 Smaller Towns	...	...	...	23·4
Chester	...	...	...	23·8
Rural Districts	...	...	...	23·4

It will be seen that Chester is fractionally higher than the 136 Smaller Towns among which it is classed, and 0·6 per 1000 lower than England and Wales as a whole.

The birth rate of the City from 1881 to 1911 is given below:—

CHESTER BIRTHS, 1881—1911.

Year.		Population.		Births.		Birth Rate.
1881	...	37,226	...	1,232	...	33·09
1882	...	37,259	...	1,182	...	31·72
1883	...	37,292	...	1,158	...	31·05
1884	...	37,325	...	1,141	...	30·56
1885	...	37,358	...	1,158	...	30·99
1886	...	37,391	...	1,151	...	30·78
1887	...	37,424	...	1,097	...	29·31
1888	...	37,458	...	1,074	...	28·67
1889	...	37,491	...	1,096	...	29·23
1890	...	37,524	...	1,098	...	29·26
1891	...	37,558	...	1,074	...	28·59
1892	...	37,676	...	1,128	...	29·93
1893	...	37,796	...	1,159	...	30·66
1894	...	37,915	...	1,105	...	29·14
1895	...	38,035	...	1,142	...	30·02
1896	...	38,155	...	1,171	...	30·69
1897	...	38,276	...	1,081	...	28·21
1898	...	38,397	...	1,103	...	28·72
1899	...	38,518	...	1,049	...	27·23
1900	...	38,640	...	1,092	...	28·26
1901	...	38,732	...	1,037	...	26·77
1902	...	38,806	...	1,054	...	27·16
1903	...	38,880	...	1,064	...	27·36
1904	...	38,955	...	1,044	...	26·80
1905	...	39,029	...	1,066	...	27·31
1906	...	39,104	...	1,063	...	27·18
1907	...	39,178	...	1,015	...	25·90
1908	...	39,253	...	981	...	24·99
1909	...	39,328	...	983	...	24·98
1910	...	39,404	...	992	...	25·17
1911	...	39,479	...	941	...	23·83

The continued fall in the birth rate is to be deplored, particularly as the better section of working classes are now showing a lessened fertility. In all likelihood the rate will continue to fall. There is still however a considerable margin to

the good between the birth rate and the death rate, and the loss in the actual number of births seems likely to be compensated for, to a considerable extent, by a lessened wastage in infant life.

However much legislative control of the fertility of the unfit may be desirable, it is hardly yet in the field of practical politics.

There were 47 illegitimate births during the year, 14 more than in 1910, and 9 more than in 1909.

It is impossible to draw conclusions from these figures, since the Registrar General now sends, for the first time, the number of births properly belonging to Chester but which take place outside the City. A large proportion of these are illegitimate.

There were 11 cases of twin birth.

STILL BIRTHS.

Thirty-two cases of still birth were brought to the notice of the Department during the year. Twenty-one were in the practice of Midwives, and these were, along with one other, the subject of investigation.

The probable causes of death may be classified as follows :—

Ill Health of Mother	...	...	...	4
Emotion (worry or grief)	...	...	...	4
Twin Birth	...	...	...	3
Accidents of Parturation	...	...	...	4
No help at Birth	...	...	...	1
Not Ascertained	...	...	...	6
				—
				22
				—

Causation.—The causes of still birth are numerous and ill-defined, but ill-health of the mother is a very frequent cause. The insufficient food and clothing and bad housing, which are the constant partners of poverty, lead to a state of health in

which the ordinary physiological process of gestation cannot proceed normally. Doubtless a number of those lost infants might have been saved and an occasion of sorrow avoided by care of the mother during pregnancy. Most of the cases classified as having no ascertained cause were first conceptions, and they were at or about full time. The first labour is very frequently slow and tedious if not actually difficult, and the child is apt to suffer. One is tempted to wonder if early interference by a medical man would have saved those lives.

Intemperance did not seem to be a cause of the still births under review, as only one father is reported as being given to alcoholic excess. Eight of the mothers are recorded as being total abstainers, and of these four were mated with husbands of a like faith and four were less happily matched.

MIDWIVES.

It is now illegal for any woman, unless a certified midwife, to "habitually and for gain" attend women in childbed. Cases of emergency are excepted. This necessary exception, together with the words habitually and for gain make it somewhat difficult on occasion to determine if the Act is being treated with due respect. In an emergency a neighbour is called in, and it is surprising to find that she is a stranger and that it had not occurred to any one to enquire her name. One is tempted to wonder if "habitually and for gain" may not apply, but so far I have not been able to satisfy myself that it would. In two cases uncertified women had been engaged and attended at childbirth. Both were informed of the requirements of the Act and warned.

Disciplinary Matters.—In one case a midwife was reprimanded for non-notification of ophthalmia neonatorum. The necessary form required in cases of still birth was not forwarded to the Medical Officer in one case. A reprimand was administered in this instance also.

In February last a midwife in practice in Chester was dismissed from an institution through misconduct.

The Central Midwives' Board were informed of the circumstances, and in their reply indicated that her previous record was such that it was desirable to remove her name from the Midwives' Roll. The Board thought it desirable that the Local Supervising Authority for Chester should investigate the circumstances leading to her dismissal, and, if they thought fit, to report the matter to the Board as misconduct within the meaning of Section 8 (2) of the Midwives' Act, 1902.

The matter was brought to the notice of the Local Supervising Authority, who, after investigation, concluded that the circumstances were such as to come within the meaning of Section 8 (2) of the Midwives' Act, and it was reported to the Board as suitable for investigation.

The London County Council, at the same time, brought a similar charge against her, and her name was removed from the Roll.

NOTIFICATION OF BIRTHS ACT, 1907.

By Resolution of the Council, dated 25th January, 1911, this Act was adopted in Chester and came into operation on the 1st March, 1911.

The following circular letter was addressed by my predecessor to every medical man resident in Chester, and to every midwife practising in the district :—

CITY OF CHESTER.

TOWN HALL,

HEALTH DEPARTMENT,

25th February, 1911.

Notification of Births Act, 1907.

I desire to inform you that by a Resolution of Council, which has received the sanction of the Local Government Board, the Notification of Births Act will come into force within the City of Chester on the 1st March, 1911.

The Act, in substance, provides as follow :—

- (1) In the case of every child born in an area to which the Act applies, it shall be the duty of the father, if actually residing

in the house when the birth occurs, and of any person in attendance on the mother at, or within six hours after, the birth, to give notice of the birth in writing to the Medical Officer of Health.

- (2) Such notice shall be given within 36 hours after the birth, by means of a prepaid letter or post card or written notice delivered by hand; and stamped forms for the purpose shall be supplied free of charge to any Medical Practitioner or Midwife in the area concerned, who applies for them.
- (3) Any person who fails to give the prescribed notice shall be liable to a penalty not exceeding twenty shillings, unless the Court is satisfied that there were reasonable grounds to believe that due notice had been given by another person.
- (4) Notification of Birth shall not replace Registration. The birth must also be registered with the Registrar in the usual way.
- (5) Notification shall be required in the case of every child which has issued forth from its mother after the expiration of the twenty-eighth week of pregnancy, whether alive or dead.

I enclose stamped notification forms. Suitable cases will be visited by the Council's Lady Health Visitor; and it will be a favour if, in notifying, you will indicate whether you desire, or do not desire, the child to be visited.

Your kindness in acquainting any whom it may concern with the provisions of the Act will be much appreciated.

The Form of Notification is given below. It provides for, besides the bare notification, an answer to the query as to whether a visit from the Health Visitor is required.

CITY OF CHESTER.

Notice of Birth (Notification of Births Act, 1907).

This Notice must be filled in and delivered or posted within 36 hours after the birth of the child.

The persons required to give notice are the father of the child, if residing in the house at the time of birth, and any person in attendance on the mother at, or within 6 hours after, the birth.

This notice is required in the case of every child which has issued forth from its mother after the expiration of the 28th week of pregnancy, whether alive or dead.

The birth must also be registered with the Registrar in the usual way.

If more cards are required kindly intimate here

To the Medical Officer of Health.

Date.....

I hereby give you notice of the Birth of a [live] [stillborn] child at :—

Address

Surname of Child Sex.....

Date of Birth..... Hour.....

Notice given by :—

Name.....

Address

Is Health Visitor required?.....

From the first the notifications satisfying the terms of the Act were very satisfactory. Out of 793 births 665, that is 83·8 per cent., were notified within the statutory 36 hours. Of the remaining 128, 67 or 8·4 per cent. were notified late.

In all cases of non-notification or late notification, the responsible persons were communicated with and their legal responsibilities pointed out.

In view of the fact that about 16 per cent. of the births were either not notified or notified late, the following letter was

addressed to the medical men practising in the City on 18th November, 1911:—

Public Health Department,
Town Hall, Chester,
8th November, 1911.

Dear Sir,

Notification of Births Act, 1907.

Circular Letter to Medical Practitioners from the
Medical Officer of Health.

I find that a considerable proportion of births attended by medical men are not notified under the Notification of Births Act, 1907, or if notified are notified after the 36 hours specified by the Act.

The obligation to notify rests primarily with the father of the child, but responsibility is also laid on the Medical Attendant.

It will be a great help to the Department, in securing proper compliance with the Act, if the Medical Attendant will kindly undertake at each birth to remind the father of his duty, or will personally notify the birth.

If the father is not residing in the house at the time of the birth, it is hoped that the Medical Attendant will either himself send the notification or arrange that it be sent by the nurse or other person in attendance on the mother.

Forms for notification may be had on application to the Public Health Department.

I am,
Yours faithfully,

D. RENNET,
Medical Officer of Health.

At the same time the midwives received the following circular letter:—

Public Health Department,
Town Hall,
Chester, 8th November, 1911.

Dear Madam,

Notification of Births Act, 1907.

Circular letter to Certified Midwives from the
Medical Officer of Health.

I find that a considerable number of births attended by Certified Midwives are not notified under the Notification of Births

Act, 1907, or if notified after the expiration of the 36 hours specified in the Act.

The obligation to notify rests primarily with the father of the child, but responsibility is also laid on the Certified Midwife.

It will be a great help to the Department in securing proper compliance with the Act, if the Certified Midwife will undertake, at each birth, to inform the father of his duty, or will personally notify the birth. Where the Midwife is not satisfied that the parent has notified she must do so herself.

If the father of the child is not resident in the house at the time of the birth, the Certified Midwife must herself notify the birth.

Failure to notify renders the responsible person, in the first instance the father, then the Midwife or Medical Attendant liable to a penalty not exceeding twenty shillings.

The birth must still be registered at the usual time.

Yours faithfully,

D. RENNET,

Medical Officer of Health.

This action has had the gratifying result of increasing the number of notifications within the statutory 36 hours.

Considering that the Act lays unfamiliar obligations on parents, medical men, and midwives, the proportion of notifications received has been exceedingly good.

The powers conferred upon local authorities by this Act are considerable and of far reaching effect. Most of the deaths in infancy occur in the first six months of life, and the chief causes of these deaths are prematurity, diseases of the digestive system and wasting. In the case of at least two of those causes the foundation of trouble is frequently laid, during the first weeks of life, in injudicious feeding. The notification of every birth within 36 hours of its occurrence enables the health department to get in touch with the mother and child before much harm can

be done. The advice on feeding, clothing, and general management, which it is thus possible to give at the time when it is most needed, and when a mother is most receptive will certainly bear good fruit.

In this matter of the supervision of infant life the Corporation of Chester owe a great deal to the Chester Ladies' Health Society, the members of which have visited, at frequent intervals, 150 infants during the year. The Society is also doing good work towards the prevention of what is perhaps the greatest cause of infant mortality—prematurity. Where the expectant mother is so poor that she cannot get nourishing food, is housed in insanitary conditions, and is harassed by all the cares and troubles that poverty brings, it is hardly to be expected that the process of gestation will run its ordinary physiological course. Even when the natural term is completed the offspring can hardly be robust and fitted as a healthy child to withstand all the hazards of infancy. In some such cases the Chester Ladies' Health Society have provided dinners. It only wants, I believe, more financial support to extend this excellent scheme, and the help may be continued for some little time into the nursing period.

Procedure following Notification:—All infants are visited by the Health Visitor, usually within ten to fourteen days after the date of birth, with the following exceptions:—

1. Births which occur in Institutions.
2. Births attended by a Doctor, where the question, "Is Health Visitor Required?" printed on the doctors notification cards, is answered in the negative.
3. A few midwives cases.

Of the 793 Chester births notified between March 1st and December 31st, 1911, 582, that is 72·1 per cent. were visited by the Health Visitor. At this visit particulars as to the occupation of the father and mother, the state of health of the infant, particulars as to its feeding, and the state of the house are noted on a form drawn up so as to be available for the child's history

for the first twelve months. This form provides for the records of fortnightly visits during the year, so that a complete history of the first year's life of a child may be read off on reference to the form.

The infants visited are then classified as follows :—

1. For visitation by the Ladies' Health Society. A weekly list of names is sent to the Secretary of the Society, together with cards embodying the same questions as in the forms previously referred to.
2. For re-visitation by the Health Visitor.
3. No re-visit necessary.

During that part of the year during which the Act was in operation, the Ladies' Health Society visited 150 infants. Those visits are made so far as is practicable every fortnight, and the cards returned to the Medical Officer at the end of every month. The records are then inspected and any action thought desirable is taken.

Two hundred and forty-six cases were deemed suitable for re-visitation by the Health Visitor, and these children were kept under supervision so far as was practicable. One hundred and eighty-six cases required no second visit.

Conditions found during the first visit on a notified infant:—

A considerable proportion of the children at this early age are entirely breast fed 82·7 per cent. of the whole. The mothers' milk was supplemented with some other food in 8·8 per cent. of the cases, and 8·5 were entirely hand fed. We find therefore that 17·3 per cent. of the children are getting food other than their mothers' milk, even in the first few weeks of life. Generally, during the first few weeks of the infants' life, the food used, other than their natural food, is cow's milk. Very soon however many other articles of diet are added which are far from harmless. Arrowroot, boiled bran, "what we have," "anything," are not articles of diet which can properly be given to an infant in the first months of life. Under ordinary circumstances the

only legitimate addition to a child's natural diet for the first nine months of life is cows milk, cream, water and sugar. When the cream cannot be afforded, and it frequently cannot, a small quantity of cod liver oil or olive oil makes an excellent and cheap substitute. When the child does not thrive on such a diet medical advice ought to be asked before venturing on any other. The question of infant feeding is one of great importance. In Chester, as in other places, it is found that mortality among hand fed children is much higher than among those that are breast fed. Considering the deaths amongst visited infants during the last ten months 47·4 per cent. were breast fed while 52·6 were either entirely or partly hand fed.

One very important point in the hand feeding of infants is the necessity of scrupulous cleanliness. This is difficult if not impossible to attain where a bottle with a long rubber tube is used. The inside of the tube is difficult to clean even with special brushes for the purpose. Only feeding bottles of a boat, or slipper shape, and without tubes should be used. This may seem, but certainly is not a subject of little importance.

Home Conditions:—Of the homes visited 73 per cent. were clean, 18 were only fairly so, while 9 per cent. were dirty. During visits made in connection with the Notification of Births Act, many sanitary defects were found in the houses concerned. Those defects were remedied as soon as possible.

In Chester one or two children are lost every year through overlying. Two were killed—it really amounts to that—in this way during 1911. The habit parents have of taking infants into the same bed as themselves is a most dangerous one. A crib is not necessarily an expensive piece of furniture. A cheap box or basket makes an excellent bed for an infant, while I have seen a drawer from a chest of drawers do duty in the same way.

Puerperal Fever:—There were four cases of puerperal fever notified during 1911, compared with five in the previous year.

Three of the cases occurred in the practice of certified midwives. A careful inquiry was made into the circumstances

of each case, and in all the cases proper precautions seem to have been taken.

While one must regard puerperal fever as a preventable disease, the occasional occurrence of cases is not surprising when we think of the length of time that the patient is exposed to risk, and the impossibility of preparing the patient as for any other surgical operation.

Two of the cases proved fatal.

INQUESTS.

The number of inquests held in 1911 was 65, twenty more than in the previous year. Fifty-eight related to persons over five years, and seven to children under that age.

The findings were as follows :—

Heart Disease	...	...	...	...	11
Drowning	...	...	...	...	8
Falling, accidental	...	...	...	...	7
Hæmorrhage in Brain	...	...	...	...	5
Suicide	...	...	...	...	5
Natural Causes	...	...	...	...	2
Bicycle accidents	...	...	...	...	2
Injuries received on railway	...	...	...	...	2
Run over by train	...	...	...	...	2
Run over by lorry	...	...	...	...	2
Suffocation by fall of earth	...	...	...	...	2
Acute Traumatic Gangrene, Blood Poisoning, Cancer, Hæmorrhage in Chest, Lead Poisoning, Motor Collision, Ran over by Motor, Suppurative Meningitis, Accidental Poisoning, Syncope, each one	...	...	...	...	10
					<hr/> 58

Children under Five—

Burns	...	...	...	...	3
Convulsions	...	...	...	...	2
Overlaying	...	...	...	...	2
					<hr/> 7
Total					<hr/> 65

NON-RESIDENT DEATHS.

The number of non-residents who died in the City during 1911 was 64, seventeen more than in the previous year. Practically all those died in the Chester General Infirmary.

The residences as given by the Registrars were as follows:—

Hawarden	...	...	...	...	...	10
Ellesmere Port	...	...	...	...	...	8
Chester Rural District, Hoole, Tarporley, each	5	...	...	...	...	15
Flint	...	...	...	...	...	4
Helsby, Manchester, Mold, Shotton, Tarvin, and Wrexham, each	2	...	...	...	...	12
Buckley, Barrow, Connah's Quay, Denbigh, Farndon, Frodsham, Hadley, Hope, Little Saughall, Llangollen, Liscard, Newport, Salop, Reading, Rossett, Sale, each one	...	...	...	...	...	15
						<hr/> 64

DEATHS.

During the year 614 deaths were registered in the City, of those 64 have to be deducted as being deaths of non-residents, and 14 have to be added as deaths of Chester residents who had died outside Chester. The net deaths for the year are therefore 564. This is equivalent to a death rate of 14·28 per thousand.

In 1910 the rate was 15·25 the lowest then recorded, the rate for the present year is lower by 0·97 per 1000.

Making the necessary correction for age and sex distribution this crude rate becomes 14·75 per 1000, compared with 15·75 last year.

Year.	Population Estimated.	General Death Rate per 1,000.
1881	37,226	18·85
1882	37,259	20·17
1883	37,292	18·90
1884	37,325	20·83
1885	37,358	24·63
1886	37,391	19·47
1887	37,424	18·83
1888	37,458	19·90
1889	37,491	20·30
1890	37,524	21·78

Year,		Population Estimated.		General Death Rate per 1,000.
1891	...	37,558	...	20·8
1892	...	37,676	...	20·9
1893	...	37,796	...	21·4
1894	...	37,915	...	16·229
1895	...	38,035	...	21·25
1896	...	38,155	...	20·4
1897	...	38,276	...	19·2
1898	...	38,397	...	21·3
1899	...	38,518	...	19·84
1900	...	38,640	...	18·81
1901	...	38,732	...	19·46
1902	...	38,806	...	16·59
1903	...	38,880	...	16·92
1904	...	38,955	...	16·30
1905	...	39,029	...	18·08
1906	...	39,104	...	18·07
1907	...	39,178	...	16·59
1908	...	39,253	...	16·12
1909	...	39,328	...	16·40
1910	...	39,404	...	15·25
1911	...	39,479	...	14·28

The following table shows the position of Chester in relation to the rest of England and Wales :—

ANNUAL DEATH RATES IN ENGLAND AND WALES PER
1000 LIVING—1911.

				Deaths.	
				Crude.	Corrected.
England and Wales ...	...	...	...	14·6	14·6
77 Great Towns, including London				15·5	16·4
136 Smaller Towns ...	...	...	...	13·8	14·4
Chester ...	...	...	...	14·28	14·75
Rural Districts	...	...	...	13·9	13·1

Taking these corrected rates as the only rates with which comparisons can properly be made it is seen that Chester is only fractionally higher than the 136 smaller towns and practically the same as the rate for England and Wales.

MORTALITY IN RELATION TO AGE.

Infantile Mortality.—It is very gratifying to find that the death rate among infants in the year 1911 is considerably

lower than it has been for some years. During the year, 103 deaths occurred among infants in their first year of life. The equivalent rate, calculated as per 1000 births is 109·4 as against 138 in 1910. The previous lowest infantile mortality rate recorded was 111 in 1907.

Considering the exceptionally warm summer of 1911 one would have expected a much larger number of deaths from diarrhoeal diseases, but they are only three more than in 1910 although nearly double the number for 1909. If there is cause for congratulation that the number of these deaths was not greater, there is no reason for lessening our efforts to further reduce the loss from this prolific and preventable cause of death.

Diarrhoeal diseases are primarily due to errors in feeding and want of cleanliness in handling food and eating utensils. With a little more knowledge and care on the part of the mother most of these deaths would not have taken place. Breast feeding is by far the best means of preventing the occurrence of those diseases and every endeavour ought to be made to breast feed infants for nine months at least. If for any reason this is impossible it is infinitely better to only partly hand feed and not abandon breast feeding entirely. Should hand feeding be necessary the best food is good cows milk, preferably boiled and cooled just before using. Scrupulous cleanliness is an absolute necessity in the feeding of infants. In this matter many Chester Mothers have much to learn. Some of the dairy farmers who supply milk to the City have also much to learn in the matter of cleanliness. There is no necessity for particles of dung to find their way into milk, yet one very frequently finds such matter there.

Six out of twenty-four deaths from diarrhoeal diseases occurred in courts.

Towards the end of August a memorandum was received regarding the prevention of summer diarrhoea from the Local Government Board. Following that arrangements were made with the Improvement Committee to have the house refuse removed twice weekly in place of once a week from the courts and more

crowded parts of the City. This arrangement I think ought to be permanent and embrace the whole of Chester. At the same time as this arrangement was made the following circular was issued and distributed as widely as possible amongst those likely to benefit by it.

CITY OF CHESTER.
PUBLIC HEALTH DEPARTMENT.

EPIDEMIC DIARRHŒA.

Summer Diarrhœa is a dangerous disease, particularly amongst infants under two years of age, but it is dangerous to all children.

On the first symptoms of diarrhœa a child should be taken to a doctor.

SUMMER DIARRHŒA IS PREVENTABLE.

Breast-fed children seldom take it. You should continue to breast-feed your child.

If the child is getting cow's milk *the milk ought to be boiled* as soon as possible, and kept afterwards in a *clean covered vessel* in a cool place. The cooler the milk is, the better will it keep. *Always keep it covered.*

Do not use a feeding bottle with a tube. A boat-shaped bottle with a teat is much better. Keep the bottle scrupulously clean.

For older children, also boil the milk and be very careful of other food they take.

All food must be fresh, particularly fruit and fish.

The hands should be washed before handling food.

Keep the house clean, and remove soiled cloths at once.

Keep the windows open.

Protect all food from flies, they infect food.

Burn all waste food.

D. RENNET, M.D., D.P.H.

Medical Officer of Health.

28h August, 1911.

Marasmus—Marasmus caused sixteen deaths in 1911, compared with twenty-nine in 1910, and fourteen in 1909. This

disease is also entirely preventable. It is a condition of wasting, generally due to improper food and bad surroundings, probably as much to the surroundings as to the food. It is seldom or never found in the country. Careful feeding and plenty of fresh air will prevent these deaths. Six out of the sixteen deaths occurred in courts.

Prematurity.—Prematurity was the cause of eighteen deaths during the year, three less than in 1910, and ten less than in 1909, when the figures were 21 and 28 respectively. The causes of premature birth are numerous, and many of them difficult or impossible to reach through any administrative means. The Chester Ladies' Health Society are doing something to lessen this cause of infant waste in providing dinners to expectant mothers, and it is to be hoped that they will be enabled to continue and extend this work.

Bronchitis and pneumonia together caused eighteen deaths among infants, compared with twenty-six and fifteen in the two preceeding years.

The common infectious diseases caused five deaths at this age, four from whooping cough, and one from scarlet fever.

Tubercular diseases caused two deaths from tubercular meningitis.

The following table gives the details of infantile mortality for the three years, 1909-1911 :—

NUMBERS OF DEATHS OF INFANTS FROM VARIOUS CAUSES DURING
YEARS 1909, 1910, 1911.

Disease.	1909.	1910.	1911.
Scarlet Fever	2	1	1
Whooping Cough	1	2	4
Diarrhœa }	13	21	7
Enteritis }			17
Tuberculous diseases	8	10	2
Congenital malformations	4	7	6
Premature birth	28	21	18
Atrophy, Debility, and Marasmus	14	29	16
Atelectasis	—	—	1
Injury at birth	—	—	1

Disease.	1909.	1910.	1911.
Syphilis	—	—	2
Meningitis (not tubercular) ...	—	—	2
Convulsions	22	12	4
Bronchitis	8	10	5
Pneumonia (all forms)... ..	7	16	13
Suffocation (overlying)	2	2	2
Other causes	7	7	2
	<hr/> 116	<hr/> 138	<hr/> 103

The figures opposite “other causes” for the years 1909 and 1910 include deaths from such causes as injury at birth, atelectasis and accident, &c., which were not differentiated during these years.

Pre-School Age (1—5).—The deaths in this period of life numbered 50 during the year. Taking the proportion of individuals at this age as being the same in 1911 as in the census of 1901 (the figures for 1911 not being yet published), the death-rate is 14·71 per 1,000 of the population living at this age. The chief causes of death were—whooping cough 13, diphtheria 2, bronchitis and pneumonia 16, diarrhœa 3, tuberculous disease 6, other causes 10.

School Age (5—15).—Nineteen deaths occurred among children of school age during 1911. The equivalent rate is 2·38 per 1,000 living at that age. Zymotic diseases caused 2 deaths, both from diphtheria; tuberculous disease caused 4, while accident accounted for 4 deaths. This rate is low, no doubt from the absence of infectious diseases. It is impossible to say to what extent the care and attention now given to school children by the Education Committee is affecting the death-rate at this age. But whether it is reflected in the death-rate or not, it is certain to be seen in the increased health and well-being of the children. The most striking thing amongst school children is their dirty, and, in many cases, their neglected appearance. A child's aversion to cold water is allowed to have full play, while many are sent to schools in clothes the value of which as a covering would be doubled by a few minutes' work with needle and thread. Pocket handkerchiefs are practically un-

known, but much needed. Does it not lie easily within the province of a teacher to improve this state of matters? If children come to school in a noticeably dirty condition, can they not be sent home to be washed? Doubtless many mothers are beyond feeling the shame attached to such a course, but some would readily take the hint, while there is always the child on whom to pin one's hope. Where water is not convenient, there dirt will be found. No house should be without its own water supply, and I hope that in some years no house in Chester will be.

Adolescent Period (15—25).—Twenty-four deaths occurred amongst persons between 15 and 25 years of age. The corresponding rate per thousand living at the particular age is 2·97. Five of these deaths were due to pulmonary tuberculosis, 1 to typhoid fever, and 5 to heart disease. The occupations of those dying of phthisis were domestic servant, tobacco worker, labourer, clerk, one each, and in one case the occupation was not given.

Mature Period (25—65).—One hundred and ninety deaths took place at this age, or 10·88 per thousand living in this age group. The principal causes of death were heart disease 36, pulmonary tuberculosis 32, cancer 24, kidney-disease 13, and diseases of the lungs 11. Of the deaths from pulmonary tuberculosis 21, or practically two-thirds, occurred before the 45th year of life. The circulatory system is more subject to strain than any other part of the body, and by this period in life it is apt to break down. The number of deaths from this cause would be materially increased if such causes as cerebral hemorrhage and cerebral apoplexy had been included. The deaths from lung diseases, other than tuberculous, are relatively few.

Post-Mature Period (25—65).—The deaths in this age group numbered 179, which is equivalent to a rate of 101·48 per thousand living. The rate is high, but the saving of lives in the younger ages tends to raise the rate at this age. Heart disease accounted for 22 deaths, diseases of the lungs 20, cancer 15, and kidney disease 11.

MORTALITY FROM CERTAIN SPECIFIED DISEASES.

Cancer.—Cancer caused 39 deaths during the year, 5 less than in 1910, 8 less than in 1909. It was almost twice as fatal among females as among males, 25 of the former dying to 14 of the latter. The average age at death was 57·7 among females and 63·2 among males. Rather more than two-thirds of the cases, 24 instances, were of the digestive system, and rather less than one-third, 12 instances, were of the reproductive system. This is a rather unusual distribution, no doubt accounted for by the small numbers dealt with. The following parts of the body were affected each in a single instance, cervical glands, nasopharynx, and axilla and shoulder. There is no branch of medicine the subject of wider scientific investigation, at the present time, than the origin of cancer. Unfortunately little advance has been made so far. It is, however, a question whether it would not be advisable to disinfect all soiled bedding and the rooms in which cancerous cases have been nursed.

There is general agreement that early surgical treatment offers the best chance of recovery. The removal, however, must be early. There is probably no disease in which delay is more dangerous.

Circulatory Diseases.—Heart disease was assigned as the cause of 64 deaths during the year. The number properly belonging to diseases of the circulation ought to be much larger. Such conditions as cerebral hemorrhage and apoplexy ought to be included under this heading, but cannot conveniently be so placed, owing to the classification in use.

Urinary Diseases.—Diseases of the urinary system were responsible for 28 deaths, all but 6 of which occurred among persons over 45, and 11 of these were over 65 years of age.

Diseases of the Respiratory system other than Pulmonary Tuberculosis.—These diseases caused 69 deaths in 1911. Eighteen of these occurred among infants under one year of age, and 34, or almost exactly half, before the age of 5 years. Twenty

of the deaths occurred at 65 years or over. The large number of deaths amongst children is worthy of attention, and shows the need of supervision beyond the first year of life. The respiratory death rate (excluding phthisis) is 1·747 per 1,000.

PULMONARY TUBERCULOSIS.

Forty-one Chester inhabitants died of this disease during the year. This is only two less than last year when the number was 43. The deaths from all forms of tuberculosis were 55 in 1911, and 69 the previous year. The tuberculosis death rate is 1·393 per 1000, compared with 1·751 for 1910. Of the 55 deaths 9 were ascribed to tuberculous meningitis and 5 to other forms of tuberculosis, the remainder being pulmonary tuberculosis. Of the nine meningitis cases, 5 occurred in the first two years of life, and two were between 15 and 25 years. All the deaths from "other" forms of tuberculosis were in the first five years of life. 70·7 per cent. of these non-phthisical but tuberculous deaths occurred before the age of 15. No doubt infection in some of these cases was from tuberculous milk, but the human source must also have played its part.

NOTIFICATION OF PHTHISIS.

Voluntary notification of Phthisis has been in force in Chester for the last six years, but is happily now superseded by the Order of the Local Government Board which came into operation on the 1st of January of the current year. The great obstacle in the way of success of voluntary notification in Chester, as in many other towns where it has been tried, was the lack of any great advantage from the patients' point of view. If some attempt at treatment had been undertaken notifications would have been more numerous and at an earlier stage of the disease. In the past notifications were made far too late to be of much advantage to the patient. With the advent of compulsory notification this will be remedied and a much wider field of usefulness opened up in the prevention of the disease. When the scheme for treatment is set on foot we ought to get what is best of all, notification in what may be called the pretubercular stage, that is, in the stage before any definite physical

signs of tubercle have shown themselves, when treatment is more in the way of prevention than cure. In any scheme which is devised provision must be made for the treatment of early cases in sanatoria and at home, for more advanced cases both in sanatoria and at home, and the isolation of the most advanced cases in isolation wards. For the supervision of the patient who is being treated at home, what is known as a tuberculosis dispensary is of the greatest value. Chester is fortunate in possessing such a dispensary which only requires a little development and encouragement to become a most useful adjunct to any scheme. The supervision of the home and of the workshop must also be undertaken.

With a short stay in a sanatorium for educational purposes where the care of the spit, the love of fresh air, and cleanliness would be taught, a great number of the cases might quite well be treated at home. The main idea underlying sanatorium treatment is fresh air, careful feeding and regulated exercise, and there is nothing in the carrying of it out—so far as these points go—which could not be done by any intelligent person who is willing to take the trouble. To teach people in general how to make “every house a sanatorium,” would go far, not only to stamp out tubercle, but to lessen the incidence of disease in general. This might well form part of the campaign.

In March, 1911, the Pulmonary Phthisis Public Health (Tuberculosis in Hospitals) Regulations 1911, came into operation by which it was made necessary to notify all cases of phthisis occurring in Public Institutions. In 1910, 32 notifications of Phthisis were made to the Medical Officer of Health; in 1911 64 have been received. The difference is entirely due to the Regulations of 1911. Under the heading of Voluntary Notification and the Order of 1908, 29 notifications have been received which correspond to the 32 of 1910. The additional 35 have been under the new regulations. Of these 64 notifications 36 were of males and 28 of females. The average age of the males was 32·3 years and of the females 31·4 years. The occupations of twenty-one of the female cases were stated, and as was to be expected, the majority were engaged in

some form of house-work, 14 out of the 21 ; in 4 cases they were of no occupation, and the following occupations gave one case each—compositor, fruit saleswoman, and tobacco worker.

As regards the occupations of the males nothing of note is evident. The only occupations in which more than one notification occurred are railway workers, fishmongers and nurseymen. Considering notifications in respect to size of house, we find that 21 cases were from three and a like number from five-roomed houses, 3 each from seven and four-roomed houses, 2 from houses with six rooms, and 1 from a two-roomed house. The number of bedrooms and the number of persons per room would give more reliable information.

PHTHISIS DEATHS.

Phthisis caused forty-one deaths in 1911 compared with forty-three in the previous year. The corresponding rates are 1·038 per 1000 in 1911, and 1·091 in 1910. A record was established by last year's rate and this year slightly improves on it. The active crusade against phthisis which must soon be initiated in Chester, will increase the rate of fall which has been going on for years. It will also, if well directed, have a marked effect on the general well-being of the community, for the ways of combating phthisis are just the ways of living a healthy life.

The following table shows the phthisis death-rate in Chester for the last 31 years :—

PHTHISIS DEATH RATE, CHESTER, 1881-1911.

Year	Phthisis Death Rate per 1000	Year	Phthisis Death Rate per 1000
1881	1·665	1897	1·621
1882	2·066	1898	1·773
1883	1·984	1899	1·793
1884	1·982	1900	1·423
1885	1·659	1901	1·394
1886	2·246	1902	1·315
1887	2·191	1903	1·464
1888	2·028	1904	1·257
1889	2·081	1905	1·793
1890	1·573	1906	1·533
1891	1·678	1907	1·557
1892	1·648	1908	1·120
1893	1·560	1909	1·271
1894	1·635	1910	1·090
1895	1·791	1911	1·038
1896	1·521		

The average age at death was 39·0 years, 39·8 for males and 37·8 for females. The time between the average age at notification and the average age at death is for males 7·5 years, and for females 6·4 years. This comparatively long period is accounted for by the fact that a number of young persons were notified, six under fifteen, while only one died at that age, and of course the fact that some of those notified recover. The average duration of illness as stated by the patient was 16·7 months. This is certainly too low. It is a matter of the greatest importance that a patient should know, as early as possible, when he is the victim of such a disease as phthisis. It is only by frankly admitting the fact that the co-operation of the patient, which is absolutely necessary for successful treatment, can be obtained.

Six of the cases, 18·7 per cent., where the family history had been noted, showed the presence of infection in the house. In only three cases was the house noted as dirty, and in one instance overcrowding was present. In only one case was excessive alcoholic indulgence found, although an alcoholic habit is commonly regarded as a predisposing condition.

Might I here remind medical men that material from suspected cases is examined, free of cost, at the Public Health Laboratory.

ZYMOTIC DEATH RATE.

The diseases classified as zymotic are, Small Pox, Typhoid and Typhus Fevers, Scarlet Fever, Measles, Diphtheria, Whooping Cough, and Zymotic Enteritis.

These diseases were responsible for 59 deaths as compared with 68 in the previous year. This is equivalent to a rate of 1·49 per 1,000, which is ·23 below the rate for 1910 when it was 1·72. It is, however, higher by ·27 than the rate for 1909 when it was 1·22 per thousand.

The following table shows the mortality from the common zymotic diseases in Chester for the last 3 years :—

ZYMOTIC DEATH-RATE IN CHESTER, 1909—1911.

Disease.	1909.	1910.	1911.
Diarrhœa	·101*	·634	·785
Enteric Fever	·076	·050	·101
Diphtheria	·177	·076	·101
Measles	·050	·659	·025
Whooping Cough	·076	·126	·434
Scarlet Fever	·355	·177	·025
Smallpox	·000	·000	·025
Total zymotic death-rate	1·22	1·72	1·49

* Under one year.

The decrease is mostly due to the absence of deaths from Measles, practically all the other rates are raised, notably those from Whooping Cough and Diarrhœa. Measles which had been mildly epidemic in 1910 showed little prevalence in 1911, but unfortunately there are signs that 1912 may show greatly increased incidence. Scarlet Fever which had been epidemic in 1909 showed a marked decline in 1910 which was continued in 1911.

Scarlet Fever:—The year 1910 saw the last of the most extensive epidemic of Scarlet Fever that Chester has experienced since notification was adopted. It was therefore to be expected that 1911 would produce few cases. During the year 89 cases were notified from the City and one death occurred. This was a child of weekly constitution and suffering also on admission from sickness, and Diarrhœa which contributed materially to the fatal result. The death rate of Scarlet Fever for the year is ·025 and the case mortality 1·12.

The following table shows the progress of Scarlet Fever since the commencement of notification:—

CASE MORTALITY AND DEATH RATE OF SCARLET FEVER
SINCE 1886.

Year.	Number of Cases.	Deaths.	Case mortality per cent.	Death rate per 1,000.
1886	49	7	14·2	·187
1887	162	5	3·0	·133
1888	149	4	2·7	·106
1889	155	19	12·2	·506

Year,	Number of Cases.			Deaths.	Case mortality per cent.		Death rate per 1,000.	
1890	...	46	...	0	...	0·0	...	·000
1891	...	56	...	5	...	8·9	...	·133
1892	...	133	...	5	...	3·7	...	·132
1893	...	220	...	8	...	3·6	...	·211
1894	...	256	...	7	...	2·7	...	·184
1895	...	208	...	13	...	6·2	...	·341
1896	...	159	...	9	...	5·6	...	·235
1897	...	128	...	5	...	3·9	...	·130
1898	...	126	...	6	...	4·7	...	·156
1899	...	195	...	5	...	2·6	...	·129
1900	...	71	...	1	...	1·4	...	·026
1901	...	119	...	2	...	1·7	...	·051
1902	...	83	...	2	...	2·4	...	·051
1903	...	75	...	3	...	4·0	...	·077
1904	...	64	...	7	...	10·9	...	·180
1905	...	111	...	3	...	2·7	...	·076
1906	...	102	...	0	...	0·0	...	·000
1907	...	80	...	1	...	1·2	...	·025
1908	...	163	...	6	...	3·68	...	·152
1909	...	893	...	14	...	1·5	...	·355
1910	...	181	...	7	...	3·7	...	·177
1911	...	89	...	1	...	1·12	...	·025

Of the 89 notifications, 51 were attending the public elementary schools. This is just over 60 per cent. The schools did not seem to play any evident part in its dissemination. There were 14 schools mentioned as being attended by patients and the greatest number of patients from any one school was 11 from Grosvenor St. John's, and 6 from Love Street School, but the cases were scattered over a long period. Six Schools had only 1 case each.

Diphtheria.—Forty-four cases of Diphtheria were notified during the year, compared with 62 in 1910. This is the lowest number notified in any one year since 1903, when 29 cases were notified. Of the 44 cases 4 died giving a death rate of ·101 per thousand living, and a case mortality of 9·09 per cent. The death rate is higher by ·026 than the rate for 1910, but lower than in any of the previous six years when it ranged from ·50 to

17. The case mortality is higher than it has been since 1906. Thirty-eight of the cases were treated in the Isolation Hospital and two died giving a case mortality for those treated in hospital of 5·2 per cent.

I would draw the attention of medical men to the arrangement arrived at by the Chester Corporation in December 1910, by which Diphtheria Antitoxin can be obtained free of charge for the treatment of those unable to pay for it. I cannot do better than reproduce the circular letter addressed to all medical men by my predecessor. It is as follows :—

DIPHTHERIA ANTITOXIN.

I am instructed by the Council of the City of Chester to call attention to arrangements made by them, pursuant to the Diphtheria Antitoxin (Outside London) Order 1910, for the provision of Diphtheria Antitoxin free of charge for the treatment of certain inhabitants of the City.

The inhabitants in question are these :—

Persons residing within the City of Chester, including patients of the Chester General Infirmary, who are unable to pay for Diphtheria Antitoxin, but are not in receipt of Parish Relief.

The following are all excluded from the provision :—

- (a) Persons residing outside the City of Chester ;
- (b) Persons in a position to pay for Antitoxin ;
- (c) Poor Law Cases.

The Council have confidence in Medical Men to determine what persons may appropriately be regarded as unable to pay for Antitoxin; but in the event of any question being raised as to the eligibility of a person treated, they reserve the right of inquiry.

In issuing Antitoxin free of charge it is the desire of the Council to facilitate its prompt administration. It is not proposed to depart in any way from the practice of removing Diphtheria patients to Hospital.

The Council will look to the Medical Man in attendance to administer the Antitoxin. For the treatment of Poor Law cases they will be prepared to issue Antitoxin to Poor Law Medical Officers at cost price.

The method of distributing Antitoxin will be as follows :—

Antitoxin will be issued to messengers presenting written requests signed by Medical Men, and by Medical Men only.

Between 9-30 a.m. and 6 p.m. on Mondays to Saturdays inclusive, public holidays excepted, requests should be presented at the Town Hall, Health Department. On the same days at other hours and on Sundays and public holidays at any hour, requests should be handed, till further notice, to Mr. John Simon, The Cross, Chester.

Antitoxin Syringes will not be issued.

All requests should be endorsed ANTITOXIN and should specify the number of units desired.

In acknowledging receipt of Antitoxin, Medical Men will be requested to state, on a form to be provided, the name and address of the person treated, and other details.

The issue of Antitoxin will begin on 1st December, 1910.

J. R. CURRIE,

TOWN HALL, CHESTER,

Health Department,

30th November, 1910.

Medical Officer of Health.

The arrangement was only taken advantage of twice during the year.

The mortality from Diphtheria has been shown to be markedly influenced by the time which elapses before Antitoxin is given.

The following table, taken from Biggs and Guerard is instructive in this matter :—

EFFECT OF ANTITOXIN TREATMENT IN RELATION TO DAY
OF DISEASE.

Day of Disease.	Cases treated.	Deaths.	Mortality. per cent.
First ...	1,415	51	3·5
Second ...	2,640	213	8·0
Third ...	2,340	300	12·8
Fourth ...	1,458	346	23·6
Fifth and after ...	1,912	671	35·0

During the year the average day of disease on admission was four days.

Of the 44 cases, only 18 occurred in Public Elementary Schools, of which twelve had a case or cases, the majority only one. In one school three cases occurred, two in July and one in November. The schools did not therefore play any important part in the spread.

Towards the end of the year two cases were notified in quick succession from the same private school. Inquiry was made at the proprietor of the school as to the existence of sore throat among the pupils but none was admitted. This was however quickly followed by another notification, and the proprietor at the same time asked us to make an examination of the school. The school was examined and a brushing taken from the throat of each of the pupils with the result that two children were found to be harbouring the bacillus of diphtheria. The carriers were isolated, and the school and school utensils disinfected, since then no further cases have occurred.

The following table shows the progress of diphtheria in Chester during the last twelve years :—

DIPHTHERIA, CHESTER, 1900—1911.

Year.	Number of Cases.		Deaths		Case mortality per cent.		Death-rate per 1,000 living	
1900	...	45	...	5	...	11·1	...	·129
1901	...	59	...	8	...	13·5	...	·206
1902	...	41	...	3	...	7·3	...	·077
1903	...	29	...	2	...	6·9	...	·051
1904	...	58	...	9	...	15·5	...	·231
1905	...	50	...	5	...	10·0	...	·128
1906	...	152	...	20	...	13·1	...	·511
1907	...	201	...	18	...	8·9	...	·459
1908	...	96	...	7	...	7·29	...	·178
1909	...	74	...	7	...	9·4	...	·177
1910	...	62	...	3	...	4·8	...	·076
1911	...	44	...	4	...	9·09	...	·101

Measles.—Measles which threatened to become epidemic in 1910 gave little evidence of its presence in 1911. One death occurred during the year. It is however again showing signs

of spreading, and there is no hope that the present year will show the same low death roll. Measles is infectious for two or three days before the rash appears, and during these early days the only signs are those of a common cold, so that in times of epidemic children suffering from a cold, ought to be isolated, so as to prevent the possible spread of infection. Measles ought never to be regarded as a trivial disease. Particularly among children under five years more deaths are caused by measles and whooping than by scarlet fever.

Whooping Cough.—Whooping cough increased in prevalence during 1911. Seventeen deaths occurred from this disease as compared with five in the preceeding year. All of those deaths were among children under five; four were under one year, six between one and two, and seven between two and five. The death rate was $\cdot 432$ per 1000 living.

It cannot be pointed out too often that whooping cough and measles are dangerous diseases. Whooping cough is not ushered in by a period of acute illness, but runs, in the absence of complications, a moderately uniform course. Probably for that reason parents give little or no attention to the child suffering from this disease. Yet the risk the child is running of either death or lifelong injury is very considerable. It is safe to say that for every one of those seventeen children who have died from whooping cough, some are left with lungs damaged more or less extensively. Of those damaged children a few may doubtless recover, some will run their race handicapped to the end, while some will fall early from consumption or other lung affection attacking an already damaged lung. In every case of measles or whooping cough medical advice ought to be sought early.

Typhoid Fever.—Eight cases of typhoid fever were notified during the year. This is five more than the preceeding year, and the same number as in 1909.

One of the cases certainly and possibly two, contracted the disease outside Chester, while two other cases were neighbours.

A careful inquiry was made into possible sources of infection but nothing definite could be ascertained.

Most of the cases were of a severe type, and it is possible that others of a milder nature escaped detection. This is all the more probable as typhoid fever seemed to be more than usually prevalent in many districts during last summer.

Three deaths occurred from this disease during the year.

ENTERIC FEVER, CHESTER, 1911.

Year.	Population Estimated.	Enteric Cases Notified.	Deaths.	Enteric Death Rate per 1000 Population.
1881	37,226	...	8	·214
1882	37,259	...	11	·295
1883	37,292	...	14	·375
1884	37,325	...	18	·480
1885	37,358	...	9	·240
1886	37,391	...	4	·107
1887	37,424	...	13	·347
1888	37,458	195	30	·802
1889	37,491	73	11	·293
1890	37,524	46	4	·100
1891	37,558	78	9	·239
1892	37,676	71	14	·371
1893	37,796	85	22	·580
1894	37,915	71	6	·157
1895	38,035	56	7	·183
1896	38,155	33	4	·104
1897	38,276	48	6	·156
1898	38,397	64	6	·156
1899	38,518	56	11	·285
1900	38,640	68	5	·129
1901	38,732	36	6	·154
1902	38,806	20	3	·077
1903	38,880	28	5	·128
1904	38,955	17	1	·025
1905	39,029	18	2	·050
1906	39,104	11	0	·000
1907	39,178	9	1	·025
1908	39,253	20	2	·050
1909	39,328	8	3	·075
1910	39,404	3	2	·050
1911	39,479	8	3	·075

The unsatisfactory scheme of refuse removal in use in Chester makes it difficult to keep the back courts of houses

satisfactorily clean. The removal is made at too long intervals and the odd boxes used as ashbins, or the frequent absence of any receptacle, affords unlimited opportunity for the dissemination of infective matter by flies or by winds, while the refuse itself is a convenient but unsuitable material for the study of modelling by the younger children. I am glad to say that much is now being done in the provision of proper galvanised iron ashbins which will make the more frequent removal an easier matter.

SMALLPOX.

A case of small-pox occurred in the City during the year. It was contracted in a neighbouring town, where some cases of the disease existed. The case was of a severe type, and the patient, unfortunately, died. Every precaution against spread, including the re-vaccination of a large number of contacts, was taken, and, happily, with success.

ALCOHOLISM.

No deaths were attributed directly to the effects of alcohol during the year.

DEATH-RATES FROM SELECTED CAUSES IN COURTS AND IN CHESTER—1911.

The following figures are instructive, as showing the markedly greater death-rate in Courts as compared with Chester as a whole. All the increase is not due to the difference in housing conditions, but, to a considerable extent, must be put down to that cause.

CRUDE DEATH-RATE FOR CHESTER AND FOR COURTS.

				Per 1,000 living.		
				Chester.		Courts.
General death-rate	...	...	...	14·28	...	24·51
Diarrhœal diseases (first 5 years of life)				6·37	...	10·86
Marasmus (under 1 year)	...	...	...	18·98	...	58·82

METEOROLOGY.

The instruments by means of which Meteorological Observations are made at Chester are these :—

Fortin's Barometer.
Maximum Thermometer.
Minimum Thermometer.
Dry and Wet Bulb Thermometers.
Sunshine Recorder.
Rain Guage.
Four Earth Thermometers—1ft., 2ft., 3ft., and 4ft.

Barometric Pressure—The average mean barometric pressure for 1911 was 29·959 inches. The highest monthly mean pressure was 30·287 inches in January; the lowest 29·620 in December.

The highest recorded reading was 30·768 inches on 1st February; the lowest 28·824 on 18th November.

Temperature—All thermometer readings are in degrees Fahrenheit.

The summer temperatures were exceptionally high. The highest temperature (in the shade) during 1911 was 89·0° on 14th August; the lowest was 19·9° on 2nd February.

The mean temperature throughout the year was 50·4°. The average for the maximum thermometer was 57·7°, for the minimum 42·9°. The highest monthly mean was 64·8° in August, the lowest 40·6° in January.

The mean daily range of temperature was greatest in May, and least in December.

Humidity—The average relative humidity for the whole year was 76·2 per cent. The highest monthly relative humidity was 87·2 per cent. in January, the least, 62·7 per cent., in July.

Bright Sunshine—The total hours of bright sunshine in 1911 were 1829 compared with 1548 in 1910. The sunniest month was July, with 285 hours, an average of 9·2 hours daily. The darkest month was January, with 55 hours of sunshine, an average of about 1·8 hours daily.

The sunniest days in the year were the 14th June and the 7th July, on which the sun shone brightly for 15 hours.

There were no sunless days in April, May, July and August. December and January had each nine sunless days.

Rainfall—The total rainfall for the year was 20·75 inches, which is unusually low, being about three-quarters the average yearly rainfall.

The wettest months were September and December, with 4·11, and 4·02 inches respectively. There were 24 wet days in December, and 13 in September. In 1910 September was the driest month, with a fall of 0·26 inches. January, April, July, and May were the driest months in 1911, with falls of 0·42, 0·49, 0·55, and 0·61 inches respectively. The number of rainy days was 146 in 1911 (204 in 1910), of which 24 were in December. January, with the smallest rainfall, had only five wet days. The wettest day of the whole year was on the 12th September, when 2·30 inches of rain actually fell, which is one-ninth of the total rainfall for the year. The aggregate of the 12 wettest days in each month was 6·9 inches, which is just one-third of the year's rainfall.

Underground Temperature—The average record for the 1ft. Earth thermometer was 51·6°, for the 2ft. 52·8°, for the 3ft. 53·6°, and for the 4ft. 54·2°.

Direction of Wind—The prevailing winds throughout the year were westerly and southerly.

The wind blew from the East on 13 days only, and North-East 22 days.

BAROMETRIC PRESSURE.

CHESTER, 1911.

Month.	Mean Pressure, reduced to 32° F. and mean sea-level. Inches.	Observed Monthly Range. Inches.	Extremes.
January ...	30·287	1·153	Highest : 1st February, 30·768
February ...	30·095	1·544	
March ...	29·928	0·770	
April ...	29·977	1·221	
May ...	29·958	·736	
June ...	29·962	1·098	Lowest : 18th November, 28·824
July ...	30·133	·929	
August ...	29·963	·633	
September...	30·033	1·010	
October ...	29·897	1·675	
November ...	29·656	1·436	
December ...	29·620	1·196	
Averages ...	29·959	1·117	

TEMPERATURE IN THE SHADE.

CHESTER, 1911.

Month.	Maximum Degrees F.	Minimum Degrees F.	Mean Degrees F.	Mean daily range of temp'ture Degrees F.	Extremes.	
					Highest Degrees F.	Lowest Degrees F.
January ...	45.0	35.1	40.6	10.9	54.0	27.2
February ..	46.6	35.3	41.0	11.3	56.7	19.9
March ...	48.5	36.9	42.7	11.6	57.0	32.1
April ...	52.4	39.0	45.7	13.4	60.8	26.3
May ...	64.8	45.0	54.9	19.8	77.7	35.1
June ...	67.2	48.6	57.9	18.6	81.7	35.6
July ...	72.9	53.3	63.1	19.6	87.1	41.1
August ...	74.6	55.0	64.8	19.6	89.0	47.4
September...	65.4	48.4	56.9	17.0	85.4	37.0
October ...	55.9	42.1	49.0	13.8	62.6	29.8
November ...	49.3	38.0	43.7	11.3	59.5	26.1
December ...	49.2	38.6	43.9	10.6	55.6	31.1
Averages ...	57.7	42.9	50.4	14.8	...	...

HUMIDITY.

CHESTER, 1911.

Month.	Dry Bulb. Degrees F.	Wet Bulb. Degrees F.	Dew Point. Degrees F.	Relative Humidity per cent.
January ...	39.4	37.9	35.9	87.2
February ...	40.5	38.4	35.7	83.1
March ...	42.3	39.6	36.3	79.2
April ...	47.0	43.7	40.0	77.0
May " ...	57.8	52.3	47.3	68.4
June ...	59.7	53.6	48.2	65.5
July ...	65.4	58.2	52.3	62.7
August...	66.5	59.8	54.3	64.7
September ...	58.0	53.3	49.1	72.5
October ...	49.0	46.8	44.4	84.5
November ...	43.3	41.1	38.5	83.0
December ...	43.4	41.6	39.4	86.0
Averages ...	51.0	47.2	43.5	76.2

BRIGHT SUNSHINE.

CHESTER, 1911.

Month.	Total Bright Sunshine. Hours.	Most Sunshine in one day.		Number of Sunless Days.
		Amount Hours.	Date.	
January ...	55.35	7.50	26th	9
February ...	77.75	8.20	24th	7
March ...	101.15	9.10	26th	4
April ...	150.85	10.80	11th	0
May ...	257.20	14.00	29th	0
June ...	232.45	15.10	14th	1
July ...	285.15	15.10	7th	0
August ...	248.70	13.20	9th	0
September ...	188.45	12.70	3rd	2
October ...	88.40	8.70	10th	4
November ...	75.45	6.80	5th	4
December ...	68.75	6.35	9th	9
Total ...	1829.65	...	...	40

RAINFALL.

CHESTER, 1911.

Month.	Total. Inches.	Number of day with rain (.01" or more).	Greatest Fall in one Day.	
			Amount. Inches.	Date.
January ...	0.42	5	0.20	8th
February ...	1.23	15	0.19	14th
March ...	0.87	10	0.28	12th
April ...	0.49	10	0.11	18th
May ...	0.61	6	0.26	3rd
June ...	2.47	11	1.06	24th
July ...	0.55	10	0.26	1st
August ...	2.25	10	0.71	27th
September ...	4.11	13	2.30	12th
October ...	1.96	10	0.30	2nd
November ...	1.77	16	0.65	11th
December ...	4.02	24	0.58	8th
Total ...	20.75	146	6.90	...

UNDERGROUND TEMPERATURE.

CHESTER, 1911.

Month.				1 Foot. Degrees F.	2 Feet. Degrees F.	3 Feet. Degrees F.	4 Feet. Degrees F.
January	...	...	...	39·6	42·2	44·8	46·2
February	...	...	...	39·6	41·9	44·3	45·6
March	...	...	...	42·2	44·1	45·7	46·7
April	...	...	...	46·0	46·8	47·2	47·8
May	...	...	...	57·3	55·5	53·3	53·0
June	...	...	...	63·8	62·7	60·1	59·6
July	...	...	...	66·5	64·8	62·2	61·7
August	...	...	...	67·9	67·8	66·1	65·8
September	...	...	...	59·2	61·7	63·2	63·9
October	...	...	...	50·4	53·9	57·1	58·5
November	...	...	...	43·6	47·6	51·6	53·0
December	...	...	...	42·7	44·8	47·6	49·0
Averages				51·6	52·8	53·6	54·2

DIRECTION OF WIND.

CHESTER, 1911.

Month.				N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
January	...	...	...	4	2	0	10	4	6	1	3	0
February	...	...	...	2	0	0	1	5	4	6	10	0
March	...	...	...	2	4	5	4	3	1	2	10	0
April	...	...	...	5	2	0	2	1	7	1	11	0
May	...	...	...	1	7	1	5	3	5	2	3	3
June	...	...	...	1	0	2	3	6	5	0	12	1
July	...	...	...	3	1	1	4	7	2	3	6	4
August	...	...	...	2	0	0	9	5	8	1	1	5
September	...	...	...	3	0	1	10	1	5	5	4	1
October	...	...	...	4	4	2	10	3	2	1	5	0
November	...	...	...	4	2	1	7	6	5	1	4	0
December	...	...	...	1	0	0	10	9	4	3	1	0
Total...				32	22	13	75	53	54	26	70	14

CANAL BOATS ACTS, 1877 & 1884.

Chester is a Registration Authority under the Canal Boats Acts. For the last three years the number of boats on the Register has been as follows :—

Year.	Number of Boats on the Register.		
At the end of 1909	533
„ „ 1910	493
„ „ 1911	507

There were fourteen more boats on the Register at the end of 1911 than in 1910, and twenty-six fewer than 1909. The fall in numbers from 1909 to 1910 was mostly due to the removal from the Register of all boats which had been destroyed or fallen into disuse. Only four boats were removed from the Register during 1911. Eighteen were added and the majority of these were new boats. During 1910 ten boats were added.

During 1911 323 inspections were made, 54 more than in 1910, and 155 more than in 1909. In 1910 thirty-three boats were found to infringe the Acts and Regulations, and in 1911 twenty-one were found at fault.

The infringements included the following :—

Absence of Certificate	...	...	6
Marking ...	...	...	3
Cleanliness...	...	...	1
Painting ...	...	...	11
Dilapidation	...	...	12
No Proper Water Vessel	...	...	3

All those faults were remedied during the year.

The number of inspections made at the request of the captain, in order to clear the complaint notes of other Canal Boat Authorities, was 8, the number for 1910 being 25.

The total number of persons for which the cabins were registered was 1,194, and the corresponding figure for 1910 was 1,094. The total actually in occupation was 833 in 1911 and 980 in the previous year. The 833 includes 389 adult males,

181 adult females, 168 children of school age, and 95 children under school age.

POPULATION IN CANAL BOATS.

	1910.	1911.
Adult Males... ..	556	389
„ Females	225	181
Children over five years ...	105	168
„ under five years ...	94	95
	<hr/>	<hr/>
Total Population	980	833

It will be seen that there is a slight improvement as regards air space per individual.

There was one birth in a canal boat during the year and no death.

There was one case of infectious disease in the canal boat population, a case of scarlet fever. The patient was removed to the Isolation Hospital, and after the necessary disinfection had been carried out the statutory certificate was issued and the boat allowed to proceed.

FACTORY AND WORKSHOPS ACT, 1901.

There were 264 workshops on the Register at the close of the year, an increase of 25 over 1910 and 65 more than in 1909. This increase in numbers does not necessarily imply an increase in occupation as a number of factories and workshops had not, for one reason or another, been put on the Register.

The following table gives the number of factories and workshops under their various designations.

WORKSHOPS, CHESTER, 1910.

Dressmakers and Milliners	94
Boot and Shoe Makers	23
Rope and Brush Makers	3
Tailors and Drapers	32
Cabinet Makers	9
Tinsmiths	2
Scale Makers	3

Saddlers and Harness Makers	...	...	6
Builders and Contractors	...	...	4
Blacksmiths and Shoeing Smiths	...	...	8
Basket Makers	...	...	2
Cycle Repairing Shops	...	...	2
Coach Builders	...	...	2
Plumbers...	...	...	2
Ironmongery	...	...	2
Laundries	...	...	3
Marine Store Dealers	...	...	2
Joiners	...	...	6
Bakehouses	...	...	42
Miscellaneous	...	...	17

Under the heading "Miscellaneous" is found such occupations as photographer, electrician, clog maker, organ builder, etc. Sixty-seven defects were found in the course of the year as compared with 53 during 1910. All were nuisances under the Public Health Act, and were dealt with accordingly.

The details are as follows :—

Want of cleanliness	...	...	32
Sanitary accommodation insufficient	...	...	7
„ „ unsuitable	...	...	11
„ „ not separate for sexes	...	...	3
Other Nuisances	...	...	14
			<hr/> 67

The "other nuisances" include such defects as defective paving, broken water closet pan, defective roofs, etc.

Most of the defects were remedied after the issue of a preliminary notice. In four cases only was it necessary to issue a statutory notice, after which the defect was remedied. There were four nuisances requiring attention at the end of the year.

H.M. Inspector of Factories sent 33 notices of infringements discovered by him as compared with 21 during 1910. Twenty-nine of these have been remedied, and four (already mentioned) still require attention. The Public Health Department sent ten notices of contraventions under the Act to H.M. Inspector. Those

notices were mostly failure to affix abstracts of the Act in the workshop.

SHOP HOURS ACT 1892.

SEATS FOR SHOP ASSISTANTS ACT 1899.

Ninety inspections were made under the above Acts during 1911 compared with ninety-five in 1910.

Under the Shop Hours Act 37 contraventions were discovered which were all rectified without delay. In 1910 there were 14 contraventions.

The hours of work varied from 20 to 72.

There were no contraventions in respect to the Seats for Shop Assistants Act, and there was only one in 1910.

HOMEWORK AND OUTWORKERS.

The names of 27 outworkers were given to the department in February as compared with 20 in February, 1910. In August 21 names were received compared with 38 in August, 1910. The occupation and sex are given below, together with the average weekly wage earned where wage is stated.

Occupation.	Number.						Average Weekly Wage.				
	February.			August.			February.		August.		
	M.	F.		M.	F.		M.	F.	M.	F.	
Boot Repairer	...	9	0	...	1	0	...	9/0 $\frac{3}{4}$	—	27/-	—
Tailor	...	5	5	...	3	3	...	12/4 $\frac{1}{2}$	9/1 $\frac{1}{2}$	9/0 $\frac{1}{2}$	11/4
Needlework	...	0	2	...	0	5	...	—	12/-	—	5/9
Dressmaking	...	0	0	...	0	4	...	—	—	—	9/-
Wool Knitter	...	0	3	...	0	0	...	—	4/0 $\frac{1}{2}$	—	—
Shirt Maker	...	0	1	...	0	2	...	—	—	—	2/9
Blind Maker	...	0	1	...	0	1	...	—	3/6	—	4/-
Upholsterer	...	0	1	...	0	0	...	—	5/-	—	—
Joiner	...	0	0	...	1	0	...	—	—	—	—
Lace Maker	...	0	0	...	0	1	...	—	—	—	1/-
		14		13	5		16				
		27			21						
		48									

No reliable analysis or deductions can be made from those average weekly wage figures. In some cases information as to

wage is refused, and it is evident that, whereas with some homework forms the main part, if not the whole, of the income, with others it is merely a fractional addition to the earnings of another and presumably inadequate occupation.

In seven cases the workroom was found to be dirty, four in February, and three in August. In each instance the defect was immediately rectified after a notice had been served.

No case of ill-health was reported among outworkers during the year.

COMMON LODGING-HOUSES.

Bye-Laws for the regulation of Common Lodging-houses were sanctioned by the Local Government Board on the 4th of January, 1910. During the year much work has been done in measuring the rooms and allotting the proper number of inmates to each. The work has now been completed, and the necessary ticketing of the rooms done. Attention is still required to the provision of extra sanitary accommodation, and the instalation of baths and extra washing accommodation. The rooms are all ventilated by windows made to open, and in the great majority of cases are provided with fireplaces.

The number of Registered Common Lodging-houses is 8, the same number as in the last two preceeding years.

The total number of sleeping rooms is 51, giving accommodation to 255 persons.

The number of rooms and the number of persons provided for are shown in the following table :—

Number.		Number of rooms.		Number of persons.
1	...	3	...	14
2	...	7	...	25
3	...	6	...	29
4	...	6	...	25
5	...	6	...	39
6	...	7	...	66
7	...	5	...	21
8	...	11	...	36
TOTAL ...		8	51	255

Two applications were received for the registration of houses as common lodging-houses. Both were refused, one because the owner would not comply with the requirements of the bye-laws, the other because of unsuitable circumstances.

All the houses were lime-washed in April and October, according to the requirements of the Public Health Act.

The Chief Sanitary Inspector made 12 night visits, between 11 p.m. and 1 a.m., in connection with houses suspected as being used as Common Lodging-houses, but not registered as such. Five contraventions came under notice. The other houses were either Houses Let in Lodgings, over which, at present, we have no control, or were occupied as ordinary dwelling-houses. Four of the persons concerned in the contraventions were prosecuted. One, who had been previously convicted, was fined £5 and cost, another £2 and costs, and a third 10s. and costs, while the fourth case was dismissed. The case not prosecuted was cautioned by the Local Authority.

BAKEHOUSES.

The Bakehouses on the register at the end of 1911 were 42 in number, one less than in 1910. The reduction is in one of the underground bakehouses now being out of use. There still remains 3 underground bakehouses, all of which have the Council's certificate.

Nineteen nuisances came to light during the year. Fourteen had reference to dirty walls and ceilings. One had no abstract exhibited as required by the Factory and Workshops Act, and the other four were sanitary defects.

Notices were served or instructions given, and all the faults were at once remedied.

One bakehouse was reconstructed during the year, making it a satisfactory and up-to-date factory. One other was rebuilt, and is also now a satisfactory and modern bakehouse.

One is structurally defective, and was under consideration by the Health Authority at the end of the year. It will probably

be rebuilt during the current year. The general standard of the bakehouses has been improved by the modernisation of the two bakehouses mentioned, and by the closing of one of the underground bakehouses.

DAIRIES, COWSHEDS, AND MILKSHOPS.

The number of Registered Cowkeepers in Chester in 1911 was 26, one fewer than in 1910.

Eighty-four other persons sold milk in the City, five less than in 1910. Of the eighty-nine, twelve had ceased to sell milk, and seven new names have been added to the list.

Cowsheds.—Forty-five inspections were made of cowsheds. Six were found to be unwholesome for one reason or another. The faults were all remedied on representation being made to the occupiers. One cowshed was declared to be unsuitable, and was condemned.

Milkshops.—One hundred and fifty-one inspections were made of milkshops during the year. Three contraventions were found, mostly having the milk uncovered. In one case the premises were unwholesome, and after a notice had been served the person concerned ceased to sell milk.

PROTECTION OF FOOD SUPPLIES.

ANALYSIS OF SAMPLES.

During 1911 one hundred formal samples of foods were taken, and submitted to the Public Analyst for examination. They were as follows :—

Milk...	58
Butter	10
Cheese	9
Lard	6
Flour	6
Bread	4
Arrow-root, Malt Vinegar, and Beer—each 2	6
Coffee	1
	<hr/>
	100

Of the hundred samples nine were reported on as adulterated. Seven of those were milk, one butter, and one coffee. In addition, five samples of milk were reported as containing more or less sediment, partly consisting of cow dung.

Twelve samples of milk were therefore reported on as unsatisfactory, the same number as last year. Five of the samples had cream extracted, the percentages being 81.5, 11.6, 9.0, 8.0, 1.6. Two had added water, the proportions being 1.8 and 4.2 per cent. Quite apart from these samples of presumably deliberately sophisticated milk the analysis is anything but pleasant reading.

The average composition of cow's milk is given by Notter and Firth as follows, and the average composition of the milk analysed in Chester during 1911 is given for comparison.

					Specific Gravity.	Fat.	Solids not fat..
Average composition of cow's milk (Notter & Firth),					1032	3.69	9.14
Chester Milk					1032.4	3.30	8.93

The average percentage of fat in 1911 was 3.30, in 1910 it was 3.38, in 1909 3.5, and in 1908 3.59. Fat is a rapidly diminishing constituent of milk in Chester. Is the price diminishing at the same rate? No doubt the abnormal weather of last year will be assigned as the cause of the low fat ratio, yet some comparatively high figures were obtained. The following are four consecutive figures for fat in 1911 analysis, 4.03, 2.76, 3.30, 4.35. Does weather not affect all alike.

The seven dealers in adulterated milk were dealt with as follows :—One was not proceeded against as another party had a prior claim to justice, one was fined 10s. and costs, another 5s. and costs, while the rest were cautioned. In the face of this procedure, adulteration of milk can be made quite a lucrative business.

Five samples were reported on as being dirty, that is as containing sediment of cow dung or cow dung and sand. The quantities were as follows :—1.4, .7, .49, 1.4 grains per gallon and a trace. The sellers of these milks were cautioned.

None of the samples contained preservatives.

Butter.—Ten samples of butter were examined during the year. One was reported as not genuine. It contained 24 per cent. of water, 16 per cent. being the maximum allowed. In addition it had 16·8 grains of boric acid to the pound. The vendor in this case was cautioned.

Lard.—Six samples were examined and all were found genuine.

Cheese.—Nine samples were examined, and all found genuine.

Bread.—Four samples examined, and found to be free from alum and made of wheat flour.

Flour.—Six samples examined and found genuine.

Arrowroot.—Two samples examined and found genuine.

Beer.—Two samples examined and found genuine.

Malt Vinegar.—Two samples examined and found to be of standard strength and free from adventitious substances.

Coffee.—One sample examined, which was found to contain 8 per cent. of chicory. The vendor was prosecuted, and, on pleading guilty, was ordered to pay the analyst's fee and costs.

BACTERIOLOGY OF MILK.

Eight samples of milk were bacteriologically examined at Thompson Yates Laboratories, Liverpool, during 1911.

The results are tabulated below :—

BACTERIOLOGY OF MILK—CHESTER, 1911.

Serial number.	Tubercle Bacillus.	Bacillus Coll in 1 cc.	Bacillus Enteritidis Sporogenes in 10 cc.
1	...	1320	...
2	...	1140	...
3	...	2580	...
4	...	840	...
5	*	†	...
6	*	†	...
7	...	†	...
8	...	†	...

* Indicates that the experimental guinea pig died before the test for tubercle was completed.

† Indicates a great excess of bacillus coli.

In six out of the eight samples taken tubercle bacillus was not found. In the two others they may or may not have been present. Failure to find tubercle bacillus in the milk for three years in succession is gratifying. But no deduction can be safely drawn from that fact. The number of samples examined has been too few to enable one to say that the milk is free from tubercle. The experience of Liverpool throws some light on the subject, which may with some reservation be used for Chester. Sixty per cent. of the milk supply of Liverpool coming from outside districts comes from Cheshire.

In 1910 four farms in the County of Cheshire were found to be sending tuberculous milk into Liverpool. Or, stating Liverpool's experience in terms of samples examined, 4·14 per cent. of the Cheshire samples were found to be tuberculous. It will be seen that there is little probability of detecting tubercle by the examination of eight samples.

Bacillus Coli.—When compared with 1910 the bacillus coli results are exceedingly bad. In four out of the eight samples they were too numerous to count, while in the remainder the cleanest of this year is rather worse than the worst of last year. With proper precautions bacillus coli ought to be absent. This record, along with the number of samples reported on as containing sediment, is not a good record for a dairying county.

Bacillus Enteritides Sporogenes.—As in 1910 this organism was not detected in 10 cc. of any of the samples.

FRIED FISH SHOPS.

The systematic inspection of these shops was commenced in 1910, and it has been continued as a most important part of Public Health administration. Fish deserves a wider appreciation as a food than it receives. As stated in last year's report, several thousands may partake of fish and chips on a Saturday night in Chester, and the occasions might be more frequent with advantage. It is of importance then that the material should be good and prepared under the best conditions possible.

The register for 1911 contains the names of 26 dealers in fried fish, three more than were known to the authorities in 1910.

Sixty-eight inspections were made, and resulted in the detection of fifteen defects or contraventions. These consisted of—

Walls and ceilings dirty...	...	...	...	10
Back yard requiring lime-washing	...	...	...	4
Dirty floors	...	...	...	1

Notices were served in each case, and were all complied with.

WHOLESALE DEALERS IN MARGARINE AND MARGARINE CHEESE.

Every manufacturer or dealer in margarine or margarine cheese is required to register his premises with the Local Authority. There are fourteen such manufacturers or dealers in the City, one more than in 1910.

MEAT INSPECTION.

There is no Public Slaughter-house in Chester. There are, however, 12 Private Slaughter-houses; six of these are registered, and six under annual licence. Two of the registered slaughter-houses and one licensed house are used for public slaughter.

These 12 slaughter-houses are widely scattered over the City, making efficient inspection a matter of considerable difficulty. The time required to go from one to another is in itself a difficulty.

During the year 50 carcasses or portions of carcasses were destroyed as being unfit for human food. In nine instances the meat was seized as being intended for the food of man and unfit for that purpose, and in the remaining instances was surrendered after the examination by the Meat Inspector.

Five hundred and nine inspections of slaughter-houses were made. In addition to these, 23 inspections were made of

the Public Market, six of the Smithfield, and forty-four at butcher's shops. The knacker's yard, where condemned or surrendered meat is sent, was visited six times.

The total number of visits and inspections made during the year was five hundred and eighty-eight.

TUBERCULOUS MEAT.

The total number of carcasses or portions of carcasses dealt with on account of tubercle was 32. These were all surrendered, no tuberculous meat having to be seized. This would suggest that butchers more generally recognise the advantage of surrendering a diseased carcase rather than run the risk of detection.

Undoubtedly the most satisfactory course the butchers can adopt in the case of a doubtful carcase is to at once notify the Public Health Authority. Immediate inspection would follow, and the carcase passed or rejected, as the case may be, and the butcher relieved of all suspicion.

Only one person was prosecuted in connection with the sale of meat. The case in question was that of a sheep which had suffered from osteo-myelitis, and which had been prepared, and was intended for the food of man. The person concerned was found guilty, and fined £5 and costs.

The total quantity of meat dealt with during the year was $3\frac{1}{2}$ tons, a much smaller quantity than in the preceeding year, when the quantity dealt with was 8 tons 19 cwt.

The following tables, prepared by the Meat Inspector, exhibit details of the work done.

MEAT INSPECTION, 1911.

SUMMARY STATEMENT.

Tuberculosis	...	...	...	...	23
Inflammation	...	...	...	...	2
Inflammation of Pelvic Cavity			...	...	1
Echinococcus Cysts		...	...	...	2
Suffocated	...	...	...	...	1

Ribs Fractured	...	...	...	...	2
Putrefaction	...	...	...	...	4
Peritonitis	...	...	...	...	1
Joint-ill	...	...	...	...	1
Flukes	...	...	...	...	3
Pleuritis	...	...	...	...	4
Immature...	...	...	...	...	1
Emaciated Dropsical	...	...	...	...	1
Distomatosis	...	...	...	...	1
Pleurisy and Peritonitis	...	...	...	...	1
Laceration of hind quarters	...	...	...	...	1
Osteo-myelitis	...	...	...	...	1

A number of butchers who, some years ago, killed their meat in Chester, and were thus subject to inspection, have now gone outside the City for the purpose of slaughtering. The County Authority make no, or practically no inspection of meat. The result is that the meat so killed is not inspected. It may be inspected when in the butchers' shops, but that is a manifestly unsatisfactory state of affairs. It is calculated that one-third of the meat sold in Chester is not subject to inspection.

There are some remarks on this matter in "The Annual Report of the Medical Officer of the Local Government Board for 1910-11." The following is an extract :—

"As a result of a communication from the City of Chester, Dr. Coutts was instructed to make some local inquiries into the conditions of meat inspection there. It was found that the Local Authority had gone to considerable pains in establishing a good system of meat inspection in the City, but that, in order to avoid supervision of their slaughter-houses by officers of the City Council, a number of local butchers had in recent years transferred their slaughtering operations to premises situated in rural districts adjacent to the City boundary. No systematic meat inspection is carried out in these districts, and consequently a considerable quantity of meat enters the City from these sources which has not been subjected to any form of inspection at the time of slaughter. As some of the butchers in question were stated

to be in the habit of purchasing "wasters" in the City market, care was taken to examine as much as possible of the meat entering the City from these slaughter-houses, but, owing to the manner in which the meat was often cut and dressed, it was seldom that direct evidence of disease could be detected.

. It was represented that the lack of efficient means of controlling practices of this kind not only discounted largely the value of the meat inspection system which had been established to protect consumers in the City, but that it also subjected honest butchers slaughtering their cattle there to the unfair competition of unscrupulous rivals who bought animals of questionable soundness at a low price, and were thus able to make large profits."

I would suggest to the Council one of the following methods to bring meat inspection in Chester into a more satisfactory condition.

1. The establishment of a Public Slaughter House.

2. The establishment of a Clearing House, as in one of the recommendations of the Royal Commission on Tuberculosis published in their report of 1898. The recommendation is as follows :—

"That local authorities be empowered to require all meat slaughtered elsewhere than in a public slaughter-house, and brought into the district for sale, to be taken to a place or places where such meat may be inspected ; and that local authorities be empowered to make a charge to cover the reasonable expenses attendant on such inspection."

3. That the names of those butchers who kill their meat in Chester be advertised in the local press as selling meat which has been subject to inspection. A suitably worded advertisement would enable the public to discriminate between meat which had been subject to inspection and that which had not. Any benefit accruing from such a course would be well deserved by those butchers who still kill their meat in Chester.

MEAT INSPECTION, CHESTER 1911.

DETAILED STATEMENT.

Date.	Description.	Disease.	* Surrendered † Seized
Jan. 12	Portions of carcase of cow	Localized Tuberculosis	*
26	Portions of carcase of ox	Localized Tuberculosis	*
Feb. 1	Portions of carcase of heifer	Localized Tuberculosis	*
1	Lungs and pleura of ox	Inflammation	*
1	Liver and lungs of ox	Echinococcus Cysts	*
24	Entire carcase of sheep	Suffocated	*
Mar. 3	Forequarters of carcase of sheep	Ribs Fractured	*
4	Two tins of corned beef	Putrefaction	†
8	Hindquarters of carcase of heifer and other portions	Localized Tuberculosis	*
8	Portions of carcase of heifer	Localized Tuberculosis	*
14	Diaphragm and peritoneum of ox	Peritonitis	*
15	Entire carcase of calf	Joint ill	*
21	Liver of ox	Flukes	†
22	Portions of carcase of cow	Localized Tuberculosis	*
24	Portions of carcase of ox	Pleuritis	*
24	Portions of carcase of heifer	Localized Tuberculosis	*
29	Portions of carcase of cow	Localized Tuberculosis	*
April 4	Portions of carcase of cow	Inflammation of Pelvic Cavity	*
12	Sheep's liver	Flukes	†
12	Lungs of ox	Pleuritis	†
19	Two livers of sheep	Flukes	†
19	Entire carcase of calf	Immature	*
20	Entire carcase of cow	Generalized Tuberculosis	*
May 1	Lungs and pleura of ox	Pleuritis	*
10	Forequarter of carcase of heifer	Localized Tuberculosis	*
10	Entire carcase of sheep	Emaciated Dropsical	*
25	Lungs and pleura of heifer	Pleuritis	*
25	Entire carcase of sheep	Putrefaction	*
31	Lungs of ox	Echinococcus Cysts	†
June 6	Liver of ox	Localized Tuberculosis	*
8	Forequarters of carcase of cow	Localized Tuberculosis	*
July 3	Portions of carcase of cow	Inflammation	†
5	Portions of carcase of heifer	Localized Tuberculosis	*
18	Entire carcase of cow	Generalized Tuberculosis	*
25	Portions of carcase of cow	Localized Tuberculosis	*

Date.	Description.	Disease.	* Surrendered † Seized
Aug. 17	Portions of carcase of heifer	Localized Tuberculosis	*
21	One forequarter of beef	Putrefaction	*
21	Four Sheep	Putrefaction	*
Sept. 26	Liver of cow	Distomatosis	†
Oct. 11	Portion of carcase of heifer	Localized Tuberculosis	*
19	Portions of carcase of cow	Localized Tuberculosis	*
Nov. 1	Forequarter of carcase of cow	Localized Tuberculosis	*
1	Entire carcase of cow	Generalized Tuberculosis	*
3	Portions of carcase of pig	Fractured Ribs	*
7	Portions of carcase of heifer	Pleurisy and Peritonitis	*
9	Two hindquarters of cow	Localized Tuberculosis	*
15	Hindquarters and offal of sheep	Laceration of hindquarters	*
22	Entire carcase of heifer and other portions	Tuberculosis	*
Dec. 6	Hindquarter of cow and other portion	Localized Tuberculosis	*
13	Entire carcase of a pig	Osteomyelitis	†

MUNICIPAL LABORATORY.

The following is a statement of work done in the Municipal Laboratory during 1910.

Diphtheria.—One hundred and seventy swabs from the throats of suspected cases of diphtheria were inoculated on to suitable media, and after cultivation for the requisite time were examined for the presence of the Diphtheria Bacillus.

Thirty-three of the 170 specimens gave positive results.

The figure for negative results includes the swabs taken from patients' throats before discharge from the hospital; taken for the purpose of shewing that the children are free from infection.

Phthisis.—Twenty-three samples of sputum from suspected cases of phthisis were examined for the tubercle bacillus. Nine of these shewed the presence of the specific organism, while in 14 tubercle bacilli were not found.

Enteric Fever.—Eighteen specimens of blood were examined by Widal's reaction. Ten specimens gave a positive test when treated with an emulsion of B. Typhosus in a dilution of 1 in 50 for 30 minutes. Eight cases gave negative results when treated in the same way.

Ringworm.—Fifty-six specimens of hair were examined for the presence of the ringworm fungus. In 42 instances the parasite was found to be present.

Anthrax.—Seven specimens of blood were examined for the presence of bacillus of anthrax. Fortunately none shewed the distinctive bacillus.

The specimens included blood from suspected pustules and from hides suspected to be those of anthrax infected animals.

Other bacteriological examinations undertaken during the year included a search for a bacillus of the meat poisoning type in a series of cases of meat poisoning. Specimens of the suspected meat and of blood and dejecta from the patients were examined but no evidence of a conclusive nature was found.

Similar specimens and a sample of the suspected food were sent to the Thomson-Yates Laboratory, Liverpool, and there subjected to an exhaustive examination. There a bacillus, allied to the Gaertner group, was isolated, but no definite connection between that organism and the cause of the food poisoning was made out.

Water.—The following work in connection with water was carried out during the year.

Chemical—

Routine examinations of the City Water Supply	...	12
Examinations of River Water	... ..	2

Bacteriological—

Routine examination of City Water Supply	...	194
Special examination of City Water Supply	...	3

The routine chemical examinations of the water supply are detailed under the heading Chemical Analysis of Water.

The special examinations were undertaken with a view of determining how far up the river evidence of sewage pollution could be traced at times of high tides. These examinations have been continued during the present year and will be reported on in connection with the chlorine tests provided for in the Chester Water Company's Bill. The routine bacteriological examinations are detailed under the heading Bacteriological Examination of Water.

The special examinations were undertaken with a view to determine whether bacilli enteritide sporogones could be detected in the City Water Supply. The B. Enteritides is one of the excremental type but not so abundant in sewage polluted waters as the bacillus coli. It was not found in the quantities of water examined.

WATER SUPPLY.

CHEMICAL EXAMINATION OF THE CITY WATER SUPPLY.

A sample of the City Water Supply taken from a consumer's tap, in different parts of the City, was examined in each month of the year. The analysis are given below :—

DATE.	SOURCE.	Parts per 100,000				Quality
		Chlorine.	Hardness	Free Ammonia	Albuminoid Ammonia	
Jan. 10	Posnett's Court, Watergate St. ...	2'0	10'4	·001	·006	Good
Feb. 9	Davis' Court, Steam Mill Street...	1'5	11'3	·002	·006	Good
Mar. 3	Hamilton Court, Newgate Street	1'2	6'0	·001	·008	Good
April 13	Hamilton Place, Upper Northg'te Street	2'9	12'9	·001	·006	Good
May 3	Kiln Yard, Linenhall Street	1'5	6'2	·001	·006	Good
June 6	Cathcart Square, Crook Street ...	3'4	12'5	·002	·008	Good
July	Parry's Court, Princess Street ...	1'7	11'4	·003	·008	Good
Aug. 11	Parry's Court, Princess Street ...	1'6	12'1	·003	·007	Good
Sept. 14	Jones' Court, Princess Street	1'8	13'3	·002	·007	Good
Oct. 20	Kiln Court, Linenhall Street	1'6	12'4	·003	·020	Good
Nov. 15	Holloway's Court, Crook Street...	1'1	7'1	·002	·020	Good
Dec. 13	Athol Place, Crook Street	1'2	8'2	·002	·019	Good

BACTERIOLOGICAL EXAMINATION OF THE CITY WATER SUPPLY.

Water from the river at the Water Company's intake, from each of the six filter beds, from the filtered water reservoir, and from consumers' taps in different parts of the City, was examined every fortnight throughout the year.

The water was examined by enumerating the colonies which developed from 1 cc. of water when plated out on a gelatine medium, and kept, so far as possible, at a uniform temperature of about 20° c. for 72 hours.

The number of colonies growing upon an agar-agar medium containing bile-salt, lactose and neutral red which encourages the growth of excremental types of bacteria and upon which the bacillus coli produces a colony of fairly typical appearance, was also counted as the number of B. Coli in 1 cc. of water.

In the raw river water taken at the intake, the average number of colonies growing on gelatine from 1 cc. of water was 2127. The highest was in September, 8336, and the lowest in July, 740.

Bacillus Coli was most numerous in December when 90 and 92 colonies developed. In April and May one colony only was obtained from 1 cc. of water.

From the six filter beds 123 samples were examined. The average number of colonies on gelatine from 1 cub. cent. of water was 4.7. The highest was 47 from one filter in May, and is followed by 32 from another in April.

In only one instance throughout year was B. Coli found in 1 cc. of water from a filter. That was in December when 92 colonies developed from 1 cc. of the raw river water. On all other occasions the test for the presence of bacillus coli was negative.

The numbers are well within the usually accepted standard from the filtered water reservoir.

Twenty-three samples from the filtered water reservoir were examined.

The average number of colonies growing on gelatine was 6.6. The highest was 14 in August and September, followed by 12 in December. These figures are also quite satisfactory.

Bacillus Coli was not found in 1 cc. of the filtered water on any occasion.

Water from a consumer's tap was examined on 23 occasions. The average number of colonies was 14 and the highest 72 in March, followed by 66 in September. In collecting the sample from a consumer's tap the water is allowed to run for 10 minutes so as to wash off any adventitious polluting matter, but in spite of that precaution one cannot say that those comparatively high counts may not be due to soiling of the tap. The probability is that they were. *B. Coli* was not found present on these occasions but was present in December on the same day as it was found in one of the filtered effluents. Judging from the Chemical and Bacteriological examinations the water supply was quite satisfactory throughout the year.

Like the great majority of towns which draw their water supply from a polluted source, Chester is dependent on the effect of sand filtration for the potability of its water supply.

It has for long been recognised that sand filtration, while effecting a very great degree of purification, is not capable of rendering a polluted water innocuous.

Sand filters are liable to become ineffective, and even in spite of the most careful supervision both of the filters and the filtered water, this may cause incalculable harm before the fault in filtration is detected. This single line of defence which is admittedly liable to break down, has been the margin of safety in most water supplies.

Attention was drawn by Frankland in 1892, to the rapid extinction of pathogenic organisms in streams and ponds, and this led to a study of the effect of storage of water upon

pathogenic germs introduced into it. Much work has been done in this connection, and in 1908 Dr. A. C. Houston, of the Metropolitan Water Board, in his "First Report on Research Work" gives the results of experiments conducted with London water, artificially polluted with the bacillus of typhoid fever.

By those experiments he was able to show that a very large percentage (99·9) of the germs could not be recovered from the water at the end of one week, and that at the end of 9 weeks no typhoid germs could be found in 100 cubic centimeters.

These experiments, however, had been carried out at a comparatively high temperature 50° F. and upwards. It was found that at lower temperatures the initial large fall in the number of bacteria was considerably delayed. I copy the following from Dr. Houston's "Seventh Research Report" published in December 1911.

"If we regard a reduction of from over 100,000 typhoid bacilli down to 3 as practical sterility, then this result (according to laboratory experiments) can be attained on the average by:—

Five weeks storage at	...	...	...	32°F.
Four " " "	...	...	...	41°F.
Three " " "	...	...	...	50°F.
Two " " "	...	...	...	64·4°F.

It will be seen that during the colder months a comparatively lengthy storage is necessary to attain the result. In these colder months it is also the case that sand filters are less efficient than during the summer months when the higher temperature favours the growth of the vegetable film upon the surface of the sand on which the efficiency of a filter so largely depends."

It is important then that a town water supply ought not to depend upon either of these means of purification singly, but ought to employ them as aids to each other. It is also of importance that during the colder months, when both methods of purification are least effective, special care should be taken to ensure a sufficiently long storage and slow filtration.

The year 1911 is important in the history of the Water Supply of Chester. During 1911 the Chester Water Works

Company promoted a Bill in Parliament, the principal purpose of which was to authorise them to construct a storage reservoir on the west side of Eaton Road. During the passage of the Bill through the Committee of the House of Lords, various modifications were introduced chiefly at the instance of the Local Authority with a view to safe guarding their interests.

The principal requirements of the Bill as passed are as follows :—

1. The present intake to be retained, and the Barrel Wells to be discontinued except in times of emergency and with the consent of the Medical Officer of Health.
2. The provision of a large storage reservoir.
3. The river water to be passed through a filter to be approved by the Corporation, placed between the intake and the reservoir and stored in a section of the reservoir without the admission of any other water for not less than 14 days, and thereafter effectually filtered according to the best known methods.
4. The reservoir to be of not less capacity than 57,000,000 gallons.
5. The Company to keep records of
 - a.* The date of abstraction of water from the river.
 - b.* The quantity of water pumped.
 - c.* The compartment of the reservoir in which it is placed.
 - d.* When taken from the reservoir to the filter beds.
6. Power is given to the Corporation to enforce these provisions, and to inspect and take samples of water from the Company's works.
7. The capacity of storage for filtered water at the Company's filter works is to be increased to 1,000,000 gallons.

Considerable discussion took place as to the extent of the tidal influence above the weir, and on the advice of Dr. Thresh, Medical Officer of Health to the County of Essex, a clause was inserted providing for tests of the amount of Chlorine present

in that part of the river affected by the tide. The method of making these tests was to be agreed between the Corporation and the Company. The Medical Officer of Health met representatives of the Company and decided on the method of making the tests, which was to vary according to information gathered during the course of the experiments.

Depending upon the result of these tests a period is to be agreed during which the Company is not to abstract water from the river after the tide has flowed over the weir.

The Chlorine tests are being made and will form the subject of report at the completion of the time fixed by the Bill.

The installation of this storage reservoir will very materially improve the quality of the Chester Water supply, and what is of equal importance it will provide a second line of defence against the danger of water borne infectious disease.

The amount of improvement and of safety will of course depend on the working of the combination of storage and filtration, but as the Water Company is equally interested with the Corporation in the purity and safety of the water supply, there should be no doubt about the efficiency of the methods adopted.

On the completion of these new works, Chester will be in the enjoyment of an excellent water supply, purified by the best known methods.

SEWAGE DISPOSAL WORKS.

In last year's Report a short history of the Corporation Sewage Disposal Works at Sealand was given. In the present Report only points of interest arising during the year affecting this department will be dealt with.

The exceptionally dry and hot summer of 1911 gave rise to some complaint of smell from the Works. Frequent visits were made to the Sewage Works and neighbourhood during the autumn, and although offensive odours were noticeable in the immediate neighbourhood of the Works intake and the lower

works. generally and at the outfall, nothing was found which could be described as a public nuisance.

In hot weather, particularly in dry hot weather, the sewage arrives at the Works in a state which is not far from evident putrefaction. The imperfect means of screening and sedimentation leads to a rapid advance in the process of putrefaction, with the result that some offence is evident in the neighbourhood of the lower works and at the point of discharge on to the upper works.

The more perfect æration of the sewage while being treated on the filters is evidently sufficient to check further putrefaction as such, and the rapid decomposition which there takes place gives rise to no offence. The considerable portion of the sewage which is not treated on these filters continues to advance in putrefaction, and it is that portion which causes offence at the outfall. The proposal to improve the screening and sedimentation, and to largely increase the filter area so as to treat the whole of the sewage, ought to be proceeded with.

Probably something could be done by means of extra flushing of sewers, and frequent cleaning of catchpits, to get the sewage to the Sewage Works in a fresher state and so delay putrefaction.

REFUSE DESTROYER.

The site for the proposed Refuse Destroyer, which has been under the consideration of the Council for a number of years, was the subject of a report during the year by my predecessor and myself. The report was to deal upon Public Health grounds with the proposal to place a Refuse Destroyer at the Electricity Works.

After carefully considering the report, the Council decided not to place the Destroyer on that site. The question of site remains undecided.

It is a question of some urgency, particularly as some time must elapse before a Destroyer is erected.

The present method of refuse disposal is admitted to be highly objectionable, and the objections are increased by the situation of the present tip. The City refuse is being dumped almost within a stone's throw of the Isolation Hospital. It is obnoxious in many ways, and in particular it is a breeding place for flies, which is coming daily nearer to patients debilitated through illness, and a ready prey to any infection flies are so fit to carry.

HOUSING.

HOUSING (INSPECTION OF DISTRICT)

REGULATIONS, 1910.

At the close of 1910, a scheme to render adequate inspection of houses possible was on the point of being considered by the Public Health Committee. The changes in the Public Health Staff delayed the completion of this scheme, and it was not until November 1911, that a re-arrangement of the Staff was sanctioned, which made it possible for the Chief Sanitary Inspector to adequately overtake this work.

During the year, besides the routine inspections of courts, 323 houses were inspected. These inspections revealed 136 nuisances or defects, and resulted in the issue of 56 notices, 40 of these being served on the owners, and 16 on the occupiers. The nuisances or defects included such things as, defective roofs, floors, and ceilings of houses, defective yard paving, dirty houses, and a number of defective drains, and sanitary fittings. These faults were all remedied, with one exception which was outstanding at the end of the year.

HOUSING TOWN PLANNING ETC., ACT, 1909.

As explained above it was only in November that satisfactory arrangements were made by which work under the Housing Town Planning etc., Act, could be undertaken. The Chief Sanitary Inspector has been made Inspector under the Act.

On the completion of our arrangements for inspection work was commenced in one of the courts, and although the houses, 29 in number had not been reported on during 1911, the necessary

work was well in hand, and the report presented early in this year. Since then closing orders have been made.

This will form part of the report for the current year.

NEWELL'S COURT.

In December 1910, closing orders had been made in respect of 5 houses in Newell's Court. Representations were made by the owner regarding the use of the buildings as warehouses. After some correspondence with the Local Government Board, and having considered the advisability of issuing demolition orders, it was agreed to sanction the use of the buildings as warehouses, but not for human habitation.

WHITE LION YARD AND HERBERT'S COURT.

Considerable alterations in White Lion Yard and Herbert's Court were being carried out during 1910. At the end of the year some minor matters remained unremedied. These have now been completed, and the result is an evident improvement on what the Courts had been.

FLUITT'S COURT AND DUNNING'S COURT.

The outstanding work in the reconstruction of these courts, chiefly matters of drainage have been completed, and the two courts now form one block of dwellings, fairly open to the winds.

COURTS IN GENERAL.

The systematic inspection of Courts has been continued, and 936 such inspections made.

The number of Courts in the City has been reduced from 127 in 1910, to 122 in 1911. This reduction is due to the Drill Hall being built on the site of Jackson's Court and Wrench's Court, the closing of Newell's Court, and removal of Horton's Court owing to new building, and Allan's Court owing to the Bars Hotel extension.

The number of defects discovered in 1911 was 101, all of which have been remedied.

The want of Building Bye-laws continues to be a serious drawback to the work of the department. Much of the drainage both new and when put in as repairs is of an unsatisfactory nature, which can only give rise to trouble from a Public Health point of view in the near future.

The lighting, ventilation, drainage, and provision against dampness, are matters affecting the health of the population. All plans of new buildings, or reconstructions affecting these matters ought to be submitted to the Medical Officer of Health. Considering the powers contained in the Housing of the Working Classes Act, and in the Housing Town Planning Act, it would seem more advisable that the Medical Officer of Health should consider these matters in the plans, rather than have to find fault with the bricks and mortar.

It may be useful in helping to shape a policy of housing in the near future, to give some indication of the number of houses which will likely be brought before you in the next year or two. There are certain Courts which are urgently needing attention, and some of which you will be asked to deal with at an early date. There are many more which although not so pressing for attention as the worst, will call for action in the near future.

Roughly speaking there will be from 100 to 150 houses brought before you in the next two years. The probable population displaced will be in the neighbourhood of 620 persons.

SANITARY WORK IN GENERAL.

During the year the drainage system of 36 houses were entirely relaid, and in 42 cases partially relaid. Faults of drainage which have been remedied during the year number 198.

The privies still in existence have been reduced in number during the year by 27. Apart from Saltney there are now very few privies in Chester.

In 37 cases new structures have been built as water-closets, to take the place of ruinous buildings, or where there was no such provision.

Drains have been tested either by the smoke test or water test in 182 instances. Considerable difficulty is occasionally met with in testing drains through the want of properly designed and constructed inspection chambers and intercepting traps. I have referred already to the advisability of having plans of new buildings and drainage reconstructions submitted to the department. The Provision of these necessary parts of a modern drainage system is one of the results which would follow such a course.

WORK DONE BY SANITARY INSPECTORS.

By the Sanitary Officers (Outside London) Order, 1910, which took effect on the 1st day of January, 1911, it is the duty of the Sanitary Inspector as soon as practicable after 31st December, in each year, to furnish the Medical Officer with a Tabular Statement exhibiting the following particulars :—

- (a) The number and nature of inspections made during the year ;
- (b) The number of notices served during the year, distinguishing Statutory from Informal Notices ;
- (c) The result of the service of such notices.

The Chief Sanitary Inspector's statement relating to 1911 is appended.

(a) INSPECTIONS MADE.

Subject Matter.	No. of Inspections.
Infectious Disease	520
Phthisis	210
Stables and Manure Pits	322
Canal Boats	323
Factories and Workshops	384
Shop Hours Act and Seats for Shop Assistants Act	88
Homework and Outworkers	49
Bakehouses	182
Dairies, Cowsheds and Milkshops	246
Destruction of Rats	105
Overcrowding of Dwelling-houses	19
Observations taken (Smoke, Sewage Works, &c.)	148
Common Lodging Houses	23

Subject Matter.	No. of Inspections.
Midnight visits to suspected unregistered Common-Lodging Houses	12
Slaughter-houses	542
Butchers' Shops	43
Cattle Sales Markets	6
Public Market	22
Knackers' Yard	5
Fishmongers' Shops	46
Fried Fish Shops	102
Grocers' Shops	3
Ice Cream Trade	16
Sanitary Surveys by request	12
Sanitary State of Courts	1363
Testing and Tracing Drains	109
Complaints Investigated, etc.	2606
Supervision of Sanitary Work in progress	1384
Food and Drugs Samples	100
Roodee Camps	27
Little Roodee (Living Vans)	81
House to House Inspection	252

(b) NOTICES SERVED.

Description of Notice	Number
Statutory	15
Informal	386
	<hr/> 401 <hr/>

(c) RESULT OF SERVICE OF NOTICES.

The notices enumerated in Table (b) related to 634 Sanitary or other defects, which were remedied or outstanding at the close of the year in the following proportions :—

At 31st Dec., 1911.

Description of Defect.	Total No. Recorded	Remedied	Out- standing
Housing.			
Yard paving defective	61	57	4
Internal walls and ceilings dirty	126	125	1
Rainwater downspouts broken	6	4	2
Defective eaves gutters	7	5	2
Roofs dilapidated	27	27	0
Sink waste defective	6	6	0
No ashbin	57	52	5
Defective ceilings	5	5	0
Kitchen floor-tiles broken	5	4	1

Description of Defect.			Total No. Recorded	Remedied	Out- standing
Yard walls dirty	...	...	7	7	0
Defective floors	...	...	21	19	2
Defective plaster of walls	...	...	7	7	0
Defective sinks	...	...	1	1	0
Defective staircase	...	...	3	3	0
Defective ashpit	...	...	1	1	0
Rainwater downspout choked	...	...	1	1	0
No water supply	...	...	3	3	0

Water Closets.

Absence of sufficient light and vent	...	...	3	3	0
Cistern inefficient	...	...	12	11	1
Defective basin trap or joint	...	...	20	19	1
Compartment ruinous	...	...	6	6	0
Defective floor	...	...	1	1	0
Defective roof	...	...	9	9	0
W.C. choked	...	...	18	18	0
No water supply...	...	...	9	9	0
W.C. basin foul	...	...	20	20	0
W.C. seal broken	...	...	7	7	0
Structure dirty	...	...	4	4	0
Absence of doors	...	...	5	5	0
Insufficient W.C. accommodation	...	...	1	1	0

Urinals.

Foul smelling	...	...	1	1	0
Absence of flush	...	...	1	1	0

Drains.

Chokage	...	...	26	26	0
Faults of alignment, jointing fall or material	...	...	26	25	1
Rainwater downspout directly connected to drain	...	...	11	10	1
Absence of gully...	...	...	2	2	0
Foul gully	...	...	1	1	0
Defective gullies	...	...	5	5	0
Choked gullies	...	...	4	4	0

Workshops.

Internal walls and ceilings dirty	...	...	8	8	0
W.C. inefficiently screened	...	...	1	1	0
W.C. compartment dirty	...	...	3	3	0
W.C. basin foul	...	...	3	3	0

Description of Defect.			Total No. Recorded	Remedied		Out- standing	
W.C. seat broken	...	...	1	...	1	...	0
No W.C. accommodation	...	...	9	...	9	...	0
Defective gully	...	...	2	...	1	...	1
Defective roofs	...	...	3	...	3	...	0

General.

Walls of stables dirty	...	...	6	...	6	...	0
Defective paving of stable	...	...	1	...	1	...	0
No manure pit	...	...	2	...	2	...	0
Accumulation of manure	...	...	9	...	9	...	0
Manure pits ruinous	...	...	2	...	2	...	0
Walls of cowshed dirty	...	...	4	...	4	...	0
Dirty outer walls in courts	...	...		...		...
Walls of bakehouse dirty	...	...	6	...	6	...	0
Overcrowding in houses	...	...	10	...	10	...	0
Pigs kept in such a state as to be a nuisance	...	...	2	...	2	...	0
Accumulation of rubbish	...	...	6	...	6	...	0
Unwholesome premises for sale of milk			2	...	2	...	0
Privies abolished	...	...	15	...	15	...	0
Defective floor and roof of warehouse	...		2	...	2	...	0
Improperly constructed cowshed	...		1	Condemned			0

The following tables give an account of other work done by Inspectors throughout the year.

WORK DONE BY NEGOTIATION WITHOUT NOTICE SERVED.

Description of Defect.			Total Number At 31st Dec., 1911. recorded. Remedied. Outstanding.			
Housing.						
Floor paving defective	...	...	2	...	2	0
Yard paving defective	...	...	21	...	21	0
Internal walls and ceilings dirty	...	...	8	...	8	0
Eaves gutter spouting broken	...	...	1	...	1	0
Roof leaky	...	...	1	...	1	0
Walls out of repair and plaster broken	...	...	2	...	2	0
No ashbin	...	...	7	...	7	0
Water storage cistern dirty	...	...	2	...	2	0

Water Closets.

Defective connections and trap	...	...	5	...	5	0
Require cleansing	...	...	7	...	7	0
Insufficient light and ventilation	...	...	1	...	1	0
Roofs leaky	...	...	3	...	3	0

Description of Defect.	Total Number At 31st Dec., 1911.						
	recorded.		Remedied.		Outstanding.		
Structure ruinous	3	...	3	...	0	0
Seat broken	1	...	1	...	0	0
Floor paving of compartment broken	...	4	...	4	...	0	0
Cistern defective	6	...	6	...	0	0
Internal walls and ceilings dirty	...	2	...	2	...	0	0
Basins broken or of an obsolete type	...	8	...	8	...	0	0
Privies converted into W.C.'s	12	...	12	...	0	0
Bakehouses.							
Internal walls and ceilings dirty	...	3	...	3	...	0	0
Gully removed from interior	1	...	1	...	0	0
Drains.							
Faults of alignment jointing or fall	...	10	...	10	...	0	0
Broken soil pipes	2	...	2	...	0	0
Not disconnected from sewer	3	...	3	...	0	0
Choked	8	...	8	...	0	0
Gullies defective	13	...	13	...	0	0
Housemaids sink relined with lead	...	1	...	1	...	0	0
Waste pipes directly connected to drain	5	...	5	...	0	0
Rainwater downspouts directly connected to drain	17	...	17	...	0	0
No inspection chamber	5	...	5	...	0	0
Soil pipe ventilators improperly placed	...	3	...	3	...	0	0
Foul ditch filled in and soiled over	...	1	...	1	...	0	0
Factory and Workshop Act.							
Internal walls and ceilings dirty	...	2	...	2	...	0	0
No hood for iron-heating stove	...	1	...	1	...	0	0
Fried Fish Shops.							
Yard paving defective	1	...	1	...	0	0
Internal walls and ceilings dirty	...	1	...	1	...	0	0
Walls of yard dirty	4	...	4	...	0	0
Dairies, Cowsheds and Milkshops Order.							
Yard paving defective	1	...	1	...	0	0
Defective gullies	1	...	1	...	0	0
Cowshed requires limewashing	...	1	...	1	...	0	0
Stables.							
Accumulation of manure	3	...	3	...	0	0
Internal walls and ceilings dirty	...	1	...	1	...	0	0
Paving defective	3	...	3	...	0	0
Manure pit ruinous	5	...	5	...	0	0
Structure dilapidated	1	...	1	...	0	0
Insufficient ventilation	1	...	1	...	0	0

SANITARY SURVEYS.

Twelve sanitary surveys were made at the request of householders. The fee charged varied with the magnitude of the survey. The total fees received was £6. In view of the small sum received for such work and the advantage of getting as many drainage systems surveyed as possible and put into a satisfactory condition, it is of doubtful advantage to make any charge for such work. It is an object of the department to have the sanitary arrangements of every house in perfect condition.

The following were among the defects found and remedied. The work entailed 162 visits :—

Drains so defective as to require relaying	...	...	3
Absence of or inefficiency of gullies	...	...	7
Rainwater pipes acting as ventilators	...	...	8
Privies removed and W.C.'s put in place	...	...	2
Defective soil pipes	...	...	3
Absence of receptacles for house refuse	...	...	2
Inspection chambers provided	...	...	2

SANITARY SURVEYS BY REQUEST.

	Number
Surveys	12
Reports issued	12
Improvements affected :—	
New fresh-air inlet	2
Waste pipes trapped	1
W.C. basins cleansed	4
Ventilating pipe cleansed	1
Drains relaid	3
Yard paving relaid	5
Rain water downspouts disconnected from drain	8
Gullies put in	7
W.C. seats provided	1
Proper and sufficient flush provided to W.C.	1
W.C. cisterns repaired	2
Curb round gullies repaired	2
Soil pipe put in order	3
Rain water downspouts cleansed	1
Sink waste pipe diverted on to existing drain	1
Dust Bins provided	2
Inspection Chambers provided	2

Water supply cistern cleansed	...	...	2
Cover provided to cistern	...	...	1
Sink relined with sheet lead	...	...	1
Water closets put in	...	...	2
Privies abolished	...	...	2
Drain and loose iron trap in cellar abolished	...	...	2
			<hr/> 56

INFECTIOUS DISEASE.

	Number.
Cases removed to Hospital	135
Rooms disinfected	344
Infectious material removed for destruction	39
Library books removed for disinfection or destruction	17

OTHER WORK.

Drains smoke-tested	133
Drains water-tested	49
Smoke observations	41
Consultations by appointment with Architects, Builders, and owners of property	166
Samples taken under Sale of Food and Drugs Act	100
Samples of food for bacteriological examination	12
Matters referred to Chester Waterworks Company	7
„ „ „ City Surveyor	28

WORK OF THE LADY SANITARY INSPECTOR.

In addition to the work carried out by the Male Inspectors, the following work has been done by the Lady Sanitary Inspector, who is also Health Visitor and School Nurse.

Schools.

Routine Medical Inspections	62
Special Medical Inspections	12
Other Visits to Schools	115
Visits to School Cases after Routine Medical Inspection	980
Home Visits to other School Cases	124

Infantile Mortality.

Birth Enquires, First Visits	562
Birth Revisits	185
Still-birth Enquiries	24
Visits concerning the Practice of Midwives	6
Visits concerning Infringement of Notification of Births' Act	22
Infant Death Enquiry	1

<i>Infectious Disease.</i>				Number.
Puerperal Fever Enquires	...	...	...	4
Visits and Revisits to cases of Ophthalmia Neonatorum	...	...	...	29
Visits to patients after discharge from Isolation Hospital	...	...	...	175
Visit to suspected Phthisis Case	...	...	...	1

<i>Other Sanitary Matters.</i>				
Complaints received and investigated	...	..	...	32
Revisits concerning Repairs and Cleanliness	...	...	...	83
Inspections of Outworkers' Premises	...	...	...	10
Workshop inspected	...	...	...	1
Visits under Employment of Children Bye-laws	...	...	...	4

(Other Visits 516).

CHESTER ISOLATION HOSPITAL.

The total number of admissions to Hospital in 1910 was 191, compared with 251 in the preceeding year. The following table gives the admissions from different diseases in the last six years.

ADMISSIONS 1906—1911.

	Scarlet Fever.	Diphtheria.	Enteric.	Other Diseases.	Total.
1906	110	144	19	20	293
1907	92	217	14	...	323
1908	167	122	14	...	303
1909	482	85	5	1	573
1910	177	70	2	2	251
1911	124	52	6	8	191

The number of admissions to Hospital is the smallest in the last six years. This is due to a lessened prevalence of both Scarlet Fever and Diphtheria. The Diphtheria admissions are the smallest in the series, and the Scarlet Fever figure has been less on only two occasions.

Details regarding the place of residence of the patients admitted during the year, are as follows:—

	Scarlet Fever.	Diphtheria.	Enteric.	Other Disease.	Total.
Chester City	82	38	6	9	135
Chester Rural District	16	4	...	...	16
Hoole	10	5	...	...	15
Tarvin, Malpas and Tarporley	15	5	...	...	20
Private	1	...	...	...	1

The average number of beds occupied daily during the year was 34·2. The average length of stay was 46·2 days.

Of the 124 cases sent in as suffering from Scarlet Fever, 118 were suffering from that disease, but 6 were found on further observation to be suffering from other conditions, 2 had pharyngitis, 2 tonsillitis, and 2 measles. One of the patients who was found to be suffering from measles proved to have diphtheria also.

One scarlet fever patient died during the year. The equivalent case mortality is ·81 per cent. The case was a child 5 months old, weakly and ill-nourished, and which suffered also from sickness and diarrhœa.

The following complications and sequellæ were noted during the year as occurring amongst the Scarlet Fever patients:—

SCARLET FEVER 1911—COMPLICATIONS.

			No. of cases.	Percentage of total cases treated.
Nose	...	...	14	11·4
Throat	...	...	1	·8
Ears	...	...	11	9·0
Glands	...	...	7	5·7
Eyes	...	...	1	·8
Kidneys	...	...	2	1·6
Heart	...	...	2	1·6
Lungs	...	...	2	1·6
General	...	...	4	3·2
		Rhinorrhœa	1	·8
		Tonsillitis	1	·8
		Otorrhœa	1	·8
		Adenitis	1	·8
		Conjunctivitis	1	·8
		Nephritis	1	·8
		Endocarditis	1	·8
		Pneumonia	1	·8
		Paronychia	1	·8
		Rheumatism	1	·8
		Urticaria	1	·8
		Relapse	1	·8
			—	
			47	

Ten patients had, besides Scarlet Fever, the following diseases present or contracted, as a rule, before admission to Hospital:—

	No. of cases.
Sores	4
Impetigo	1
Eczema	1
Measles	1
Chicken-pox	1
Diarrhœa	1
Burn	1

Diphtheria.—Fifty-two cases were received into the Hospital as suffering from diphtheria.

On observation 6 of these were found to be suffering from tonsillitis, and one from scarlet fever.

Two deaths occurred, which represents a case mortality of 3·8 per cent. One of these was treated by its own Medical Attendant.

The mortality rate is lower than in the previous year by 2·4 per cent.

The complications or sequellae observed were as follows :—

	Number of cases.	Percentage of cases treated.
Paralysis		
of Palate ...	3	} 14
of Accommodation ...	1	
of Diaphragm ...	1	
irregular action of Heart	2	
Rhinorrhœa ...	3	6
Adenitis ...	1	2
	<hr/> 11	

One of the cases was suffering from measles as well as diphtheria.

Three members of the Hospital Staff were off duty on account of illness.

One, a nurse with tonsillitis, a wardmaid with the same affection, and a ward laundry maid with scarlet fever.

Lectures.—During the winter months a series of lectures was given to the nurses. The subjects included in the course were anatomy, physiology, fevers, and nursing.

An examination was subsequently held, and two senior and two junior nurses successfully passed and were granted certificates.

CITY AND COUNTY OF THE CITY OF CHESTER.

Table I.—Vital Statistics of Whole District during 1911 and previous years.

YEAR	Population estimated to Middle of each Year	BIRTHS			TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT			
		Un- corrected Number	Nett		Number * 6	Rate 7	Of Non- residents registered in the District † 8	Of Resi- dents not registered in the District † 9	Under 1 Year of Age		At all Ages	
			Number † 4	Rate 5					Number * 10	Rate per 1000 Nett Births 11	Number * 12	Rate
1906	39104	—	1063	27·18	690	17·6	37	—	160	170·0	707	18·0
1907	39178	—	1015	25·9	629	16·0	41	—	113	120·5	650	16·5
1908	39253	—	981	24·9	616	15·6	53	—	118	125·8	633	16·1
1909	39328	—	983	24·9	612	15·5	53	—	116	123·6	645	16·4
1910	39404	—	992	25·1	577	14·6	47	—	137	145·5	601	15·2
1911	39479	923	941	23·83	614	15·55	64	14	103	109·4	564	14·28

* Total deaths occurring in Chester whether of residents or non-residents.

† Births and deaths corrected for those births and deaths properly belonging to Chester but occurring outside the District, or occurring in the District but properly belong outside.

CITY AND COUNTY OF THE CITY OF CHESTER.

Table II.—Cases of Infectious Disease notified during the Year 1911.

NOTIFIABLE DISEASE	NUMBER OF CASES NOTIFIED										TOTAL CASES NOTIFIED IN EACH LOCALITY (e.g. Parish or Ward) OF THE DISTRICT		TOTAL CASES REMOVED TO HOSPITAL
	At all Ages	At Ages—Years											
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards					
Small-pox	1	1	1	...	1	
Cholera	
Diphtheria (including Membraneous Croup)	44	4	26	7	2	4	...	...	21	23	38
Erysipelas	14	1	2	...	6	3	...	...	9	5	...
Scarlet Fever	89	2	60	3	2	...	...	...	58	31	82
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	8	...	...	3	3	2	...	...	3	5	6
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	4	...	...	4	...	...	...	...	2	2	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...
Phthisis { Under Tuberculosis Regulations, 1908 Under Tuberculosis Regulations, 1911 Others	14	...	...	1	6	7	...	...	11	3	...
	33	...	3	6	16	7	...	...	23	10	...
	17	...	...	5	7	5	...	...	11	6	...
Ophthalmia Neonatorum	7	...	...	...	...	...	...	...	4	3	...
Totals	231	10	27	91	29	42	29	3	142	82	127		

CITY AND COUNTY OF THE CITY OF CHESTER.

Table III.—Causes of, and Ages at Death during the Year 1911.

CAUSES OF DEATH	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.								TOTAL DEATHS whether of "Residents" or "Non-Residents" in Institutions in the District	
	All Ages	Under 1 Year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65		65 or upwards
Enteric Fever	4	...	...	...	1	1	1	1	...	4
Small-pox	1	...	...	...	...	...	...	1	...	1
Measles	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	1	1	...	...	...	...	...	...	...	1
Whooping-cough	17	4	6	7	...	...	...	...	...	...
Diphtheria and Croup	4	...	...	2	2	...	...	...	...	3
Influenza	2	...	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	...	...	...	1	...
Cerebro-spinal Fever	1	1	...	...	...	...	...	...	...	...
Lead Poisoning	1	...	...	...	...	...	...	...	...	...
Phthisis (Pulmonary Tuberculosis)	41	...	...	...	1	4	21	11	4	10
Tuberculous Meningitis	9	2	3	1	1	...	2	...	...	2
Other Tuberculous Diseases	5	...	1	1	3	...	...	...	...	1
Rheumatic Fever	2	...	...	...	...	1	...	...	...	...
Cancer, Malignant Disease	39	...	...	...	...	...	3	21	15	18

CITY AND COUNTY OF THE CITY OF CHESTER.

Table IV.—Infant Mortality during the Year 1911.

CAUSE OF DEATH	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total Deaths 1 Month	1-3 Months	3-6 Months	6-9 Months	9-12 Months	Total Deaths under 1 Year
All Causes—Certified	103
Small-pox
Chicken-pox
Measles
Scarlet Fever	1	..	..	1
Diphtheria and Croup	1	4
Whooping Cough	2	2	1	2	7
Diarrhoea	2	7	3	2	17
Enteritis	5	..	1	1	2
Tuberculous Meningitis
Abdominal Tuberculosis
Other Tuberculous Diseases
Congenital Malformations	2	..	..	6
Premature Births ..	2	2	..	..	4	3	..	..	..	18
Atrophy, Debility and Marasmus ..	13	1	1	..	15	2	6	2	1	16
Atelectasis..	3	1	..	..	5	..	..	..	..	1
Injury at Birth	1	..	..	1	..	..	..	..	1
Erysipelas..	1
Syphilis
Rickets	2	..	..	..	2
Meningitis (<i>not Tuberculous</i>)
Convulsions	2	2
Gastritis	2	1	..	1	4
Laryngitis..
Bronchitis..	1	1	..
Pneumonia (all forms)	1	..	..	1	2	1	2	5	5
Suffocation, Overlaying ..	1	..	1	..	2	..	4	..	..	13
Other Causes	1	..	1	2

Nett Births in the Year
Legitimate
Illegitimate

894
47

Nett Deaths in the Year
Legitimate Infants
Illegitimate Infants

93
10

FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

PREMISES	NUMBER OF		
	Inspections	Written Notices	Prosecutions
Factories (Including Factory Laundries).	23	0	0
Workshops (Including Workshop Laundries).	514	43	0
Workplaces (Other than Outworkers' Premises, included in Part 3 of this Report).	0	0	0
Total	537	43	0

2.—DEFECTS FOUND.

PARTICULARS	NUMBER OF DEFECTS			Number of Prosecutions	
	Found	Remedied	Referred to H.M. Inspector		
<i>Nuisances under the Public Health Acts :—</i>					
Want of cleanliness	32	32	0	0	
Other Nuisances	14	13	1	0	
Sanitary accommodation {	insufficient	7	5	2	0
	unsuitable or defective	11	10	1	0
	not separate for sexes..	3	3	0	0
Total	67	63	4	0	

3.—OTHER MATTERS.

CLASS	Number
Matters notified to H.M. Inspector of Factories:—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133)	10
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	{ Notified by H.M. Inspector .. 33
	{ Reports (of action taken) sent to H.M. Inspector .. 29
Other Matters : Notice of Occupation	12
Underground Bakehouses (s. 101):—	
In use at the end of the year	3
Homework:—	
List of Outworkers (s. 107):—	
Lists received from Employers	48
Lists of Addresses of Outworkers received from other Councils...	2
Number of Inspections of Outworkers' Premises	49
Outwork in unwholesome premises (s. 108)	{ Instances ... 7
	{ Notices Served ... 7
Workshops on the Register (s. 131) at the end of the year	264

CANAL BOATS ACTS 1877 & 1884.

1911.

Total Number of Boats Registered to 31st December 1911 ...	...	687
Number of Boats added to Register in 1911 ...	...	18
Number Re-registered owing to structural alterations ...	...	1
Total Number of Registrations Cancelled ...	...	180
Actual Number of Boats of Register at 31st December, 1911 ...	...	507
Number of Boats Inspected in 1911 ...	...	323
Number of Boats Conforming to the Acts and Regulations ...	...	302
Number of Boats Infringing the Acts and Regulations ...	...	21
Total Number for which the Cabins were Registered ...	...	1194
Total Number Occupying the Cabins ...	...	833
Details of Occupation—Male Adults ...	...	389
Female Adults ...	...	181
Children of School Age ...	...	168
Children under School Age ...	...	95

Details showing numbers infringing in respect to:—

No. of Cases met with.							No. of Cases Remedied.
6	...	...	...	Absence of Certificate	...	...	6
3	...	...	...	Marking ...	...	...	3
1	...	...	...	Cleanliness	...	...	1
11	...	...	...	Painting ...	...	...	11
12	...	...	...	Dilapidation	...	...	12
3	...	...	...	No Water Vessel	...	...	3
36	...	Total			Total	...	36
				Number of printed Notice Forms Issued ...	...	...	21
				Number of Notices Attended to ...	...	...	21

